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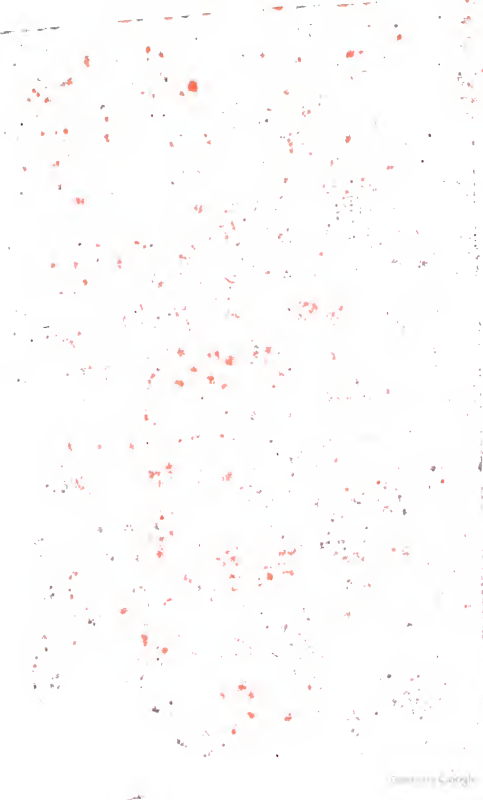


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Vol II 185



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THE
RURAL ECONOMY
OF THE
WEST OF ENGLAND:
INCLUDING
DEVONSHIRE:
AND PARTS OF
SOMERSETSHIRE,
DORSETSHIRE,
AND
CORNWALL.
TOGETHER WITH
MINUTES IN PRACTICE.

By Mr. MARSHALL.

VOL. II.

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C O N T E N T S
O F T H E
S E C O N D V O L U M E.

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Liquor.
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DISTRICT

DISTRICT THE THIRD.

THE
MOUNTAINS
OF
CORNWALL AND DEVONSHIRE.

PREFATORY REMARKS.

THE MATERIALS which I collected, respecting these Mountain Tracts, were obtained in different ways.

What relates to CORNWALL, I gathered in an EXCURSION; undertaken for the purpose of gaining some general ideas respecting this remote part of the Island.

But, with respect to DARTMORE, and its uncultivated Environs, the information I am possessed of arose INCIDENTALLY; without any premeditated plan of survey.

VOL. II.

B

Indeed,

Indeed, these wild uncultivated lands resemble, so much, the mountainous parts of Scotland, and the North of England, on which the broad lines of nature remain unobliterated, that a minute examination was the less required, by one who has been accustomed to read her works; and whose only desire, in this instance, was to extract a few leading facts.

My sources of information being thus distinct, I will preserve the materials separate, and, first offer a Transcript of my CORNISH JOURNAL, as it was hastily formed, at the time of making the Excursion (in AUGUST 1791); whether it relate to the MOUNTAINS or the LOWLANDS of Cornwall.

AN

A N
E X C U R S I O N
I N
C O R N W A L L.

THIS Excursion was made,---by CAL-
LINGTON and LESKARD, to BODMIN;
and back by LAUNCESTON and TAVIS-
TOCK.

BUCKLAND TO BODMIN.

THE ELEVATION of the Country, in this
ride, is high: the road leads, most of the
way, between the Mountains, and the
broken cultivated Country toward the Sea;
and, in passing between Leskard and Bod-
min, it crosses over the chain of Mountains
which run through this Peninsula; but not
in an elevated part. Some very high hills
are seen to the North of the road:---
“Hinkstone,” a depressed Cone, with a
B 2 Prospect

Prospect House on the top, is seen at great distances ; but a hill westward of it, overlooking Callington, is said to be the highest land, in the County. Many ragged *Tors*, of the true mountain cast, are seen in this ride.

CLIMATE. On the hangs of the Mountains, corn is still green ; but in the lower lands, harvest is now (the twentythird of August) at its height :---more than half cut, and some carried.

The **SURFACE** is exceedingly broken, into sharp ridges, and deep, steep-sided vallies ; especially on the lower declivities of the general range of hills ; as between Callington and Leskard. On the upper parts, as between Leskard and Bodmin, the swells are more rounded, and the vallies wider and less steep.

The **SOIL** is very various, as to quality ; but even the tops of the lower mountains are far from barren ; supporting numerous herds of cattle, as well as many sheep :---much more productive of grass, than the heaths of Yorkshire ; though every part produces more or less heath. Between

St. Ive

St. Ive and Lefkard, and below this toward the Sea, is a tract of charming land : five or six quarters of barley, an acre, are now harvesting. The *species of soil* appears to be very much like that of West Devonshire.

The SUBSOIL is also similar :---namely, a slatey rock, and a kind of rusty rotten slate, or rubble.

RIVERS. Several large Brooks pass from the Mountains, southward, to the Sea.

NAVIGATION. None of the Estuaries stretch up so high as this road. That of Looe reaches within a few miles of Lefkard.

The ROADS are of stone, and in some parts extremely well kept. The gates few, and the tolls moderate. Toll Roads are now formed between most or all of the market towns. The Roads of Cornwall were, formerly, very rough and dangerous ; especially across the open heaths, among the Mines ! yet, at the first introduction of them, in this Country, obstinate riots took place.

MINES. Some, but not many, in this ride :---They are, now, I understand, chiefly confined to the Western parts of the County.

The MANUFACTURE of the District, I believe, is principally Woollen Yarn, for the Devonshire Sergemakers and Clothiers.

The TOWNSHIPS appear to be large,--- with numerous Hamlets.

The PRODUCE, of the Inclosures, mostly *Corn*. The *Heaths* support the cattle in summer, and great part of the winter months. The principal requisite is in course, Straw, to feed them with, in the depth of winter. Some *Meadows* appear in the bottoms; but little *upland grass* is seen: and but very little *Woodland*; except in the Dingles, at the heads of the vallies, next the heaths.

FUEL. Towards the Mountains, Turf (provincially "vags") and Peat (provincially "Turf.") But little of the Peat, of these hills, is firm enough, it seems, to be charred (as on Dartmore), for the use of Blacksmiths.

INCLOSURES. The Mountains and their skirts are open:---the lower lands all inclosed.

The FIELDS are well sized, and well formed.

FENCES.

FENCES. The banks thinner and lower, than in West Devonshire ; but of the same form.

The BUILDINGS are mostly of Stone and Slate : some " Cob"—or Mudwall.

CROPS. Wheat and Barley, with some Oats and Turneps (unhoed), with a little Clover and upland Ley. But not a Bean nor a Pea (unless harvested), in this Ride !

The CATTLE are of the West of England breed : bred and kept on the heaths, in great numbers, from yearlings to aged Oxen : working these occasionally from the heath !

The SHEEP of the heaths are tall, and ill formed : some polled, some horned : yet, apparently, all of the same old stock : the Ewes are now at rut : the Rams have mostly large horns.

BEASTS of LABOR. Some Oxen and Horses in carriages. But Packhorses seem still to be much in use.

IMPLEMENTS. A singular kind of two-wheel carriage, for Horses or Oxen, is here in common use ; especially, I believe, to carry harvest produce upon. It is called

B 4

a " WAIN ;"

a “WAIN;” and it is a hay cart, or wain, without sides: having only two arches bending over the wheels, to keep the load from bearing upon them! with a wince behind. How simple; and, being low, how easily loaded! I met two on the road, laden with wool; each, with two oxen at the pole, and two horses before them.

MANURE. Lime and Beat ashes are universal. A considerable portion of the country is now set with roof heaps of Lime, and with velled Beat, now burning. A great quantity of earth, I see, is burnt. All, no doubt, for Wheat. Theorists I find are, here, against burning the *soil*; but Farmers, to a man, I understand, are for it.

The TILLAGE is apparently better, here, than in Devonshire. About Leskard, the land appears to be in a good state of cultivation.

ORCHARDS evidently diminish, with the distance Westward.

WOODLANDS.—Very few: some distant Oak coppice.—Peeling on the stub extends into Cornwall.

ORNA-

ORNAMENT. The views are frequently picturable, and sometimes grand : but they cloy, through a frequency of repetition, and a degree of sameness.

HARVESTING. Busy "handreaping:" saw several *women* at work. Make shocks of ten sheaves : nine in a square, and one as a hood, as in Devonshire. But, unless the straw be long, and the hood sheaf be made large and straight, the covering is incomplete. Mow chiefly with bows ; but cradles, I see, are to be sold. About Bodmin, the Wheat in general seems to be made into "*arrish mows*," or field stacklets, of about a load each.

FURZE. There are two distinct species, or varieties, now in full blow. The lower skirts of the uncultivated hills are gilded with them. One of them is the creeping sort, which is common to the Southern Counties ; the other is called the "French Furze ;" and Tavistock, I understand, has long been a market for Furze seed.

THE GENERAL STATE OF HUSBANDRY, in some parts of this ride, is above mediocrity ; except in the culture of Turneps.

Between

Between St. Ives and Leskard, is a passage of as well cultivated land, as most in the kingdom.

TOWNS. *Callington*, is a small market town ; and a *borough*. *Leskard* is a large, populous, decent-looking place, and would appear respectable in any part of the Kingdom. It is likewise a *borough*. *Bodmin*, though one of the County towns, is much inferior, in size and respectability. This, too, is a *borough*.

BODMIN TO BUCKLAND.

THE ELEVATION of the Country is very great, between Bodmin and Five Lanes, over Bodmin Down, and Temple Moor. Some very high points of view are reached. Saw the cliff and the estuary of Padstow. In a clear day, both seas are observable (near Fowey and Padstow). Some remarkable rugged mountains are seen towards the North coast. Passed "Dofmary Pool," a small lakelet, about a mile in circumference, upon the higher part of these heaths ;

heaths; and crossed a quaking bog; which has formerly, no doubt, been a lake. From the elevations surmounted in this ride, and from the top of the castle of Launceston, perhaps half of Cornwall, and a very large portion of Devonshire, are seen over: the whole a strongly featured country.

CLIMATE. Some Wheat *upon* the hills is still quite green. The harvest, in this elevated situation, is in general very late. Sometimes, being prolonged, till after Michaelmas*.

SURFACE. About ten miles of the upper part of the heaths, over which this road passes, is tamely billowy; the swells resembling those of the Downs of the Southern Counties; with lofty mountains on each hand; a charming ride, *in fine weather*. The remaining ten miles, to Launceston, and from thence to Buckland, is the same abruptly broken country, which prevails throughout the more cultivated parts of the two Counties.

The

* An intelligent fellow traveller; formerly of Bodmin: now of Launceston.

The SOIL towards Bodmin is of a mean quality ; nevertheless, the Downs and Moors are thickly stocked with Cattle and Sheep ; especially with the former : saw, on one of the higher knolls, some hundreds in a herd !

About Launceston, are some wellsoiled, but very steep hills. At Milton *Abbots* ! is a plot of the finest grassland in the Kingdom ! Grazing ground of a very superior quality. The Midland Counties cannot shew better. Also about Lamerton and Tavistock, is some good grazing land.

MINES. There is no "mine" within sight of this ride. But two or three considerable "stream works" are seen : one of which I stoꝓt to look into. In a stream work, there is no "lode" or body of ore ; the tin being lodged in small particles or fragments, among the earth (at two or three to twenty or thirty feet deep) which is washed by a rill or stream, conveyed, by art, to the required spot * ; the metal and stones remaining ; while the soil is carried
away

* Query, Have STREAM WORKS given rise to "LEATS," or made Streams, in this Country ?

away with the stream: thus annihilating the *land*, in the most compleat manner ingenuity could devise.

RIVERS. The Tamer and Tavey: also the heads of some of the Southern rivers.

The ROAD in general is good. For a considerable way, the stones are covered with a kind of rough sand, or small gravel, apparently, the loose materials of which granite is composed; making an admirable road.

INCLOSURE.—The moors are open: except some small inclosures, about Temple &c. Cultivated lands are everywhere inclosed.

PRODUCE—as before.

MANUFACTURE.—Yarn.

BUILDINGS.—Stone and Slate. At Launceston the houses are mostly faced with Slates: some of them three or four feet square. The Church is of Moorstone, deeply and richly sculptured! Substantial, and beautiful, as a Gothic building: the workmanship must have been immensely great; seeing the hardness of the materials—a shining granite.

FIELDS

FIELDS—as before.

FENCES—increase toward Devonshire ; swelling to their fullest magnitude, at Buckland Place.

CROPS—as before ; excepting the grazing grounds of Milton and Tavistock.

CATTLE. The Moor stock are of the West of England breed : saw some oxen which would fat to sixty or seventy stone on these heathy mountains ! All in very good store condition.

SHEEP. The same tall, awkward sort, as about Bodmin.

GOATS. Saw several browsing on furze. I was told that numbers are kept in Cornwall, for milking ; some herds consisting of a hundred head ; and that Goats' and Kids' flesh are not uncommon in the Cornish markets.

BEAST OF LABOR—as above.

MANURE. Beat ashes, and “ sea sand ; ” a fine *shell marl* ; which is brought in great quantities from the North coast, by the Padstow river, to within three miles of Bodmin ; and carried, by land, many miles.

TILLAGE—as before.

HAR-

HARVESTING—the same.

STATE OF HUSBANDRY,—much the same :—somewhat inferior.

ORCHARDS—increase toward Devonshire.

WOODLANDS. There are few in Cornwall ; except on the banks of the Tamer.

ORNAMENT. The mountain views are extensive and grand : those from the lower points are frequently picturesque.

TOWNS. *Temple*, a DESERTED VILLAGE ! The only one I have ever seen. Some years ago, not a single person lived in the township ! (a Curacy appendant to Blisland) and only one little farmhouse is now inhabited :—the ruins of half a dozen more ; the body of the Church down ; the Chancel remains. GOLDSMITH, surely, must have travelled this road !

Launceston—provincially and universally, throughout the country, “*Laansſon*,” is a genteel looking place ; but awkwardly situated ; on the brink and side of a very steep hill. The street leading to Newport is as steep, almost, as the roof of a house. The castle, which has been a very strong fortress,
com-

commands some charming views. *Newport* a paltry *borough*:—a mean looking hamlet; belonging to the parish of St. Stephen's, a village which stands opposite to Launceston. *Milton Abbots* a charming situation. The Abbots were admirable judges of soils and situations. *Tavistock* is also well situated; and was heretofore famous for its *abbotry*.

GENERAL OBSERVATIONS. I am agreeably disappointed with respect to Cornwall: From what I had seen on the banks of the Tamer*, I expected to have found, as I went farther Westward, a wretched country, wretched roads, wretched towns, wretched accommodations, and wretched inhabitants. On the contrary, the country, whether in point of soil or cultivation,—except the higher mountains, and they are good in their kind,—is above mediocrity. The roads, their unlevelness apart, are among the best in the kingdom. The towns, substantial and neat. The accommodations, equal to anything met with, out of the great roads. The inhabitants, intelligent, civil, are said to be extremely hospitable,
are

* See No. 3. of the following MINUTES.

are affable, clean in their appearance, and handsome in their persons. What most disgusts a stranger, in travelling through Cornwall, is the inordinate number of its boroughs; and this impropriety lies not with the people of Cornwall. There are none, indeed, so sensible of it, as the inhabitants themselves.

1. The first part of the paper is devoted to a general discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The author discusses the various theories of the origin of life, from the spontaneous generation of life from non-living matter to the theory of the origin of life from pre-existing life. The author concludes that the most probable theory is the theory of the origin of life from pre-existing life.

2. The second part of the paper is devoted to a detailed discussion of the theory of the origin of life from pre-existing life. The author discusses the various stages of the evolution of life, from the first appearance of life to the present day. The author concludes that the theory of the origin of life from pre-existing life is the most probable theory.

3. The third part of the paper is devoted to a discussion of the various problems connected with the theory of the origin of life. The author discusses the problems of the origin of the first living organisms, the origin of the first cells, the origin of the first organisms, and the origin of the first life forms. The author concludes that the theory of the origin of life from pre-existing life is the most probable theory.

DARTMORE,

AND ITS

UNCULTIVATED ENVIRONS.

THE Incidents, which led me to a knowledge of this District, are various. I had repeated occasions to traverse the WESTERN SKIRTS of Dartmore. I purposely ascended the SOUTHERN HEIGHTS, to view the striking features which that side of it exhibits, and to catch a bird's eye view of the District of the South Hams. I crossed the SUMMIT, in travelling between Morton and Buckland. And I skirted the NORTH-WESTERN MARGIN, in passing between Tavistock and Okehampton. I have, therefore, had opportunities of seeing almost every square mile of

its surface, and of observing its natural characters, in different and distant parts.

The SITUATION, of this uncultivated tract of country, is towards the Western side of Devonshire ; being, in part, separated from the Cornish mountains, by the cultivated banks of the Tamer : but, to the North of Tavistock, the skirts of Dartmore, and those of the uncultivated wilds of Cornwall, may be said to unite : for although they are strewed with plots of cultivated lands, there is no regular line of separation ; and the same mixed country spreads wide, on the North-West quarter, towards Launceston, and to the immediate environs of Okehampton. On the South, lies the fertile District of the South Hams ; and a continuation of the Chudleigh or Hall Down Hills, broken in a most striking manner, separates it on the East, from the vale of Exeter.

The EXTENT of these wild lands is not easy to estimate ; there being no determinate line, on the North-West side. A circle of twenty miles diameter, would, perhaps, comprize the whole extent of the
open

open lands, in this part of Devonshire ; exclusively of the inclosed lands, which lie intermixed among them. Admitting this supposition to be sufficiently near the truth, to give a general idea of the extent of those open lands, we may say that they cover more than three hundred square miles of surface, — amount to more than two hundred thousand acres.

In ELEVATION above the sea, these lands are greatly varied. The extended summit of the main body of the mountain, is raised, in a singular manner, above the surrounding country ; especially on the South side. Looking down, even from the midway stages, upon the South Hams, an upland District, the comparative elevation is so great, as to render the idea of difficulty, in travelling across the latter, truly ridiculous. Nevertheless, the sea washing, in a manner, the foot of the mountain, its positive height is inconsiderable, compared with that of many less mountain-like masses, which occur in the more central parts of the Island. On the North side, the stages are lengthened, and the general descent

much less abrupt. The outskirts, round Brent Tor, and towards Launceston, form an extended flat, mean in elevation, compared with the towering heights, which overlook it, on either side*.

The SURFACE, of Dartmore proper, is truly mountainous: The composition is grand; the lines in general lengthened, and the features large: not abrupt and broken, like the minor hills of Devonshire. Nevertheless, the summits of several of the higher swells of Dartmore are truly savage, and rendered finely picturesque, by reason of immense piles of stones, or huge fragments of rock, thrown confusedly together, in

* The conical hillock of BRENT-TOR, pointed with rugged rocks, and surmounted by a Church! rises in the center of this wide flat. From the grounds of Buckland, this hillock assumes the character of a mountain height of considerable magnitude; and, in navigating the Sound of Plymouth, it is used as a landmark, at more than twenty miles distance;—yet, in reality, it is but an inconsiderable hillock. A proof of the extreme levelness of this passage of country.

LAUNCESTON CASTLE, crowning a higher, but more rotund eminence, is another striking feature of the same fine, broad, savage face.

in the most grotesque manner: sometimes crowning the knolls, but oftener hanging on their brows.

In some parts, the surface is thickly strewed with stones; which, in many instances, appear to have been collected into piles, on the tops of prominent hillocks; as if in imitation of the natural Tors.—The “*stone burrows*,” of Dartmore, resemble the *Cairns*, of the Chiviot and Grampian hills.

The WATERS of this tract of mountain are merely the torrents, which pour down its furrowed sides; in every direction. The DART is the most considerable stream that owes its support to these hills.

The SOILS of these unreclaimed lands are greatly above the par of mountain soils, in the Island at large. They are superior to those of the Highlands of Scotland, and very superior to those of the North of England. Some of the higher swells, it is true, are covered with black moory earth; and in the dips between them, peat bogs are frequent, and dangerous, not only to strangers who travel the cross roads, but to

pasturing stock. And, in many parts, the soil is much encumbered with stones; which, in some, occupies, perhaps, half the surface. Nevertheless, there are extensive tracts, even of the upper grounds, that enjoy a loamy soil, nearly free from stones, and of a sufficient depth for cultivation: wanting nothing but a genial climature, and a proper supply of manure, to render them valuable, as arable lands. And soils of still better quality are observable, on some of the marginal Commons; though, on others, those of inferior value may be found.

The SUBSOILS are equally various. I have observed a stoney rubble, or foul YELLOW GRAVEL, resembling that of the Yorkshire mountains; also a friable, BROWN ROCK; and, even on the higher hills, LOAM, of a sufficient depth for every purpose of land.

The PRESENT PRODUCTION of Dartmore and its uncultivated environs may with some little licence be said to be HERBAGE!—greenward! even of the highest bleakest hills; frequently intermixed, however, with HEATH; which, indeed, chiefly occupies

occupies the worst-soiled parts of the mountain ; while, on the lower grounds, the FURZE, particularly the trailing sort, is prevalent. There is little if any WOOD, I believe, on the unappropriated parts of this tract of country : the FUEL, used by the bordering inhabitants, being the produce of the peat-bogs, and the black moory soils ; as in other mountainous Districts *.

The APPLICATION of the pasturable produce, which this uncultivated wild at present throws out, is to CATTLE, SHEEP, and HORSES, and some few RABBITS.

The RIGHT of DEPASTURE belongs to different interests. A considerable part of the mountain is FOREST LAND, subject to the superiority of the DUCHY OF CORNWALL. The outskirts, and parts of the hills, are appendant to the MANORS of the adjoining country ; and the right of pasturage vested in the appropriated lands of those manors. And beside this intrinsic right,

* Some of the PEAT is of a superior quality ; admitting of being CHARRED ; and in this state, it is used by BLACKSMITHS, instead of pit coal.

right, over their respective commons; many of those lands have a prescriptive right, on the forest, by paying an inconsiderable sum—a few pence—annually, under the name of *Venville money*, to the Duchy. The Duchy, nevertheless, preserves the right of stocking the forest lands, by *agistment*; and stock are sent, in numbers, from distant townships; paying a very low price for their pasturage: not more than a shilling or eighteen pence, a head; being paid for the summer's run of cattle!

Beside the CATTLE thus brought together by agistment, great numbers are reared, by the Venville tenants, on the verge of the forest; under a routine of practice that has been already mentioned*.

The SHEEP, being drawn together, from various quarters, differ as to breed. On the Southern hangs, and on the upper parts of the mountain, the polled breed of the South Hams are mostly seen. But, on the Northern and Western sides of it, the partially horned breed, which has been

no-

* See Vol. I. P. 244.

noticed*, are prevalent; corresponding; in general appearance, with the established breed of the Cornish mountains; but of a better frame. In winter, those sheep are drawn down to the inclosed country, where the ewes drop their lambs, and return with them, in the spring, to their mountain pasture.

Hence, the leading OBJECT of the MOORSIDE FARMER is to raise fodder enough for his cattle, and to preserve grass enough for his sheep, to supply them, during the winter months; depending, almost wholly, on the commonable lands, for their summer maintenance; his milking cows and rearing calves excepted: working oxen are, everywhere, seen on the commonable land, both of Devonshire and Cornwall: their work, under this treatment, being in course moderate.

The PRESENT VALUE of these lands appears, from this general view of their application, to be far from inconsiderable. I had not an opportunity of estimating the aggregate

* See Vol. I. P. 259.

aggregate of the stock they support. But an eye, accustomed to observations of this nature, may readily discover, that, in a **POLITICAL LIGHT**, these uncultivated lands are, at present, of some estimation. For admitting that a Moorside Farmer, by the assistance of these lands, in supporting his stock nine or ten months of the year, is enabled to rear, and forward to market, twice the number of cattle and sheep (or even one fourth of such additional number), that he could without their assistance,—the aggregate increase of produce to the community, would be found, on calculation, to be worthy of public regard. And, in a **PRIVATE** point of view, if one may judge from the good estimation in which Venville farms are held,—from the extraordinary prices which the Moorside men give for rearing calves,—namely, fifteen to twentyfive shillings, at three days old ! a price which they nowhere else bear,—and from the comfortable livelihoods which the smallest of these farmers are enabled to make,—these lands are not, at present, wholly thrown away.

Never-

Nevertheless, though they are doubtless of considerable value, at present, it does not follow that they are, at present, in their most valuable state.

To speak, in positive terms, of the means requisite to the

IMPROVEMENT

of this uncultivated tract of country, might be presumptuous, in one who has confessedly given it only a cursory incidental examination. But it has also been premised, that the passage of country, under consideration, is of a species similar to the Moors of Yorkshire, and the Mountains of Perthshire,—both of which I have examined with attention, and have, at different periods of time, separately digested my ideas, with respect to their improvement: circumstances which enable me to speak, with greater confidence, on the improvement of the moory mountains of Devonshire; whose distinguishing characteristics lie, chiefly, in the superiority of soil and climature, compared with those of the unreclaimed lands of Yorkshire and Perthshire.

In

In suggesting hints for the improvement of Dartmore and its uncultivated environs, it will be proper to consider the mountain or forest lands, separately from the commons, and lower grounds of the extensive flat which has been mentioned; as they appear to me to require somewhat different principles of improvement.

In the improvement of the HIGHER LANDS, the leading objects appear, to me, to be WOOD and HERBAGE. Their *climature*, I apprehend, unfits them for the profitable production of CORN: and a want of *manure* is another bar to this species of produce. Nevertheless, there may be dips and unreclaimed vallies, which, as *limited home grounds*, might admit of a course of arable management.

But speaking generally of these lands, the first means of improvement appears to me, to be that of PLANTING, or otherwise covering with wood, the STONEY SURFACES: not more to encrease the value of these particular parts, than to improve the climature of the whole. The *Birch*, the *Mountain Sorb*, and the *Larch*, if judiciously pro-

propagated, would flourish, I apprehend, on the bleakest exposures.

To improve the HERBAGE of the freer surface of these exposed lands, various means might be suggested.

Running high FENCE MOUNDS across the current of the Southwest winds, and planting them with Birch, Mountain Sorb, Elder, Holly, Furze, Broom, &c. in the Devonshire manner; but making the top of the mound hollow, or concave, to collect and retain moisture, and to screen the young plants, or seedlings, in their tender state. It were impossible, perhaps, to conceive a better fence, for bleak mountain lands, than the ordinary hedge of Devonshire. The mound is an immediate fence and shelter; and the coppice wood, as it grew up, could not fail, from its relative height above the subjoining lands, to IMPROVE their CLIMATURE; and encourage, in a particular manner, the *growth of herbage*; beside being, at the same time, singularly friendly to pasturing stock. The only doubt, as to the propriety of raising such fences, across the bleak lands of Dartmore,

more, lies in the expence of doing it: for, great as the positive advantages would doubtless be found,—if the expence of raising them overbalanced these advantages, such means of improvement would be altogether ineligible to be prosecuted, by *Individuals*, however profitable the effect might be to the *Public*. The freer, better-soiled parts of Dartmore, I am of opinion, would pay *Individuals*, amply, for this CARDINAL IMPROVEMENT.

To change the present produce to more profitable pasturage, either in the open or an inclosed state, different means might be pursued.

BURNING OFF THE HEATH of the black moory parts, and pasturing them hard with sheep, would tend to extirpate the heath, and bring up herbage in its place. The Cheviot hills of Northumberland, and similar hills in the South of Scotland, were probably brought to their present state of green turf, by this means.

SODBURNING the more loamy soils, sowing RAPE AND GRASS SEEDS, and FOLDING OFF THE PRODUCE, with sheep, would

would be a ready means of meliorating the herbage.

If, by the intervention of Hedge mounds, the climature of these Hills could be rendered sufficiently genial for the maturation of RAPE SEED, and should their soils be found sufficiently productive of this valuable crop, the propriety of erecting such fences would no longer remain doubtful; as a full crop of this grain would amply repay any reasonable expence that could be incurred by inclosing; and the inclosure would amply recompense the loss, which the soil could sustain, from the exhaustion of *one grain crop*: grass seeds being, in course, sown with the rape seed, or over the plants in the spring; or a due portion, at either season.

By DRAINING the springy slopes of hills, and perhaps some of the Peatbogs, the produce of those parts might be very materially improved.

By WATERING, such parts of the lower slopes as can command water, the herbage, perhaps, might be essentially bettered:

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But

But very much would depend on the quality of the water ; and this experience would readily prove.

By MANURING, something might doubtless be done, towards the melioration of the herbage. The vegetable mold of the Peatbogs, either in a crude recent state, or in the state of charcoal, or in that of ashes, would, with moral certainty, be found serviceable to the loamy soils. And earthy substances, which, if sought for, might doubtless be found, could not fail of producing beneficial effects, on the black moory lands. It is needless to add, that if Lime could be brought to these lands, at a moderate expence, there would be little risque in the free use of it. With its powerful aid, even CORN might be produced, on many of the lands under notice ; but whether with *eventual* advantage, either to the Proprietor or the Public (unless on a small scale), is a matter of great uncertainty.

The most profitable stock for these lands, in the state of improvement above suggested, would probably be found to be *young Cattle, Sheep, and Rabbits.*

There

There appears to be many situations in which the last would be most eligible. Seeing the local situation of these weak-foiled lands, --- between the markets of Exeter and Plymouth,---and the favorable turn of surface, which Nature has given to many of them, for the propagation of this species of farm stock, it is rather extraordinary that RABBIT WARRENS should not be more common, in this District, than they appear to be at present. But, perhaps, the true reason has been already assigned. See Vol. I. Page 271.

In the improvement of the LOWER GROUNDS of this extensive tract of unreclaimed lands,

CLIMATURE is the first object of attention. It is well known, to those who have embraced opportunities of observing natural effects, that the Climature of an extended and naked plain is frequently more severe and chilling, both to the animal and the vegetable creation, than that of a billowy surface, of much greater elevation. The wind, in passing over the latter, is broken into eddies, and its effects are thereby

softened: beside, let the blast blow from whence it may, some part of such a surface will always afford a degree of shelter, to animals that have free range over it; and even vegetables, that are fixed, enjoy by turns, as the wind shifts, the advantages of its shelter---while, over an extent of naked level surface, the current rushes forward with unabating force; and let it set from whatever quarter, vegetables and animals are equally exposed to its unrelenting severity. Some Oaks, scattered over the flat of wild lands now under consideration, might be adduced, with numberless other facts, in evidence of the truth of this theory. They are cut down flat, as with an edge-tool. Had they stood on the heights of Maker, exposed to the immediate sea blast, they would not probably have suffered more.

Hence, in this situation, as on the hills, the first step towards improvement would be to convert to WOODLAND, such parts as are unfit for cultivation; and to raise COPPICE HEDGES across the line of the most mischievous winds, as screens to the culturable lands.

In

In a Climature thus improved, and with a sufficient supply of LIME, at a moderate price, I am of opinion that some considerable proportion of these flat lands might be subjected, with profit, to a course of arable Management. But without a plentiful supply of Lime, or other calcareous MANURE, it appears to me more than probable, from what I have seen of these lands, that very few of them would pay for cultivation, as arable lands.

I am therefore of opinion, that, without the assistance of INLAND NAVIGATION, this extensive tract of Country must necessarily remain in its present state, or be improved as pasture grounds, in the manner which has been already suggested, for the higher lands of Dartmore.

Viewing this wide extent of Country, which, with moral certainty, might be highly improved, by means of a plentiful supply of LIME: Viewing, next, the numerous tracts of uncultivated lands between Okehampton and Biddeford, which are evidently still more improveable, as will presently be shewn, and by the same

MANURE :---And, lastly, viewing the extensive tracts of Woodland, seen in passing between the places last mentioned, and the value of SHIP TIMBER at Plymouth,--- there can be little risque in saying, that there is no other District in this Island in which the LANDED INTEREST calls equally loud for Inland Navigation, as the line of Country between PLYMOUTH and BIDDEFORD.

And seeing, at the same time, the length, and still more the uncertainty, of the passage, between Wales and the port of Plymouth, by sea; and the quantity of CULM which is now used for burning Lime, on the banks of the various Estuaries that branch out of it, as well as COALS for the use of Plymouth and its neighbourhood,--- it appears that the INTERESTS OF TRAFFIC are also concerned.

Finally, admitting, what I believe. is known to be a fact, that it is the bulky articles, here particularized --- namely, LIME, COALS, and TIMBER, not the Boxes and Bales of Trade, that render Inland Navigation profitable,--- it may be fairly concluded,

concluded, that no Line of Canal is more likely to *pay*, than that now under consideration.

The proper direction, of the Southern part of the Line, is evident. The TIDE flows within the Estuary or Mouth of the TAVEY: and, where the Tide ends, the CANAL should commence; winding up the valley of the Tavey, to TAVISTOCK; a branch being thrown off, up the valley of the Walkham, to HARROW BRIDGE, for the use of the extensive Commons in that neighbourhood, and to catch the use of the public road which there crosses the valley. Above Tavistock, the main line would still wind with the valley of the Tavey, to the FOOT OF THE DARTMORE HILLS (a most desirable point to be gained),---and thence bend across the uncultivated flat, towards OKEHAMPTON.

In travelling between Tavistock and Okehampton, I observed (between Lydford and the latter place) that the road was repaired with LIMESTONE!---black marble; a circumstance which renders it more than probable, that the raw materials of improve-

ment lie within the field to be improved, and that FUEL only would be wanted, to render the prosecution easy and profitable.

Without intending to censure the supineness, which has lately prevailed in this Country, with respect to the permanent improvement of its surface, I will not hesitate to say, that had advantages, like those which are here adduced, occurred within the interior of the Island, they would long ago have been seen and embraced: and that whenever the spirit of enterprize, in this extreme part of it, shall shift its ground, from MINING to AGRICULTURE, the Improvement which is here pointed out, will be carried into effect.

DISTRICT

DISTRICT THE FOURTH.

NORTH DEVONSHIRE.

PREFATORY REMARKS.

AN accurate Definition of what is familiarly called "NORTH DEVON," or "the North Country," I shall not attempt to give. It is generally applied, I believe, to the Country lying towards the North Coast; round Biddeford, Barnstaple, and South Moulton. But the District to which this name aptly applies, is situated between the Mountain of Dartmore and the Sea;---comprizing a wide extent of Country: diversified, it is true, in soil and surface; but it has no distinct separation of parts, large enough to warrant its being divided into separate Districts.

As the only opportunity I had of collecting information, respecting this District,
was

was obtained by an EXCURSION, undertaken for the purpose of viewing its prominent features, and of remarking the overt practices, which meet the eye of every Traveller, who looks attentively round him, --- I will not attempt a digested Register, either of the District, or its Rural Management ; but offer a Transcript of my Travelling Journal *.

The route which I thought it proper to take, was from OKEHAMPTON to HATHERLEY, TORRINGTON, BIDDEFORD, BARNSTAPLE, SOUTH MOULTON, and across the Country to DULVERTON (to catch

* It is, however, with diffidence and some reluctance, I adopt this mode of publication. And I have only to say, in its behalf, that the series of remarks, which are here published, arose from facts and reflections, that occurred, in passing through the District under review ; and were in general *dictated*, while the several subjects of Remark—remained under the eye.

The defective style, in which they appear, is the convenient one of a Journal,—or *verbal sketch book*. It is concise ; and the pronoun, or the verb, which may frequently be wanting, is readily to be *understood*. If the first person were used, egotism would disgust : if the second (as it is in the ordinary style of Journals) sense would be sacrificed.

catch a view of Exmoor and the fine scenery of its Environs); and thence, to BAMPTON and TIVERTON.

O K E H A M P T O N

AND ITS

E N V I R O N S.

SUNDAY 14 SEPTEMBER, 1794.

THE TOWN, well sized and respectable, considering the recluseness of its situation, is seated in a deep basin, broken into three parts, by the narrow wooded vallies of the Oke and its two principal branches: the former winding towards the North, the latter spreading wide to the East and West; and embracing, as with arms, the Northern point of the Dartmore Mountain; which here forms a flattened stage, of considerable extent and elevation; overlooking the town, and forming one side of the basin in which it is situated. The face of the steep is finely hung with wood; —mostly large full-headed Oaks; being
part

part of the ancient demefne lands, belonging to the Caſtle of Okehampton; whoſe ruins ſtill occupy a peninſular hillock that faces this bold woody ſteep; being divided from it by the Weſtern branch of the Oke. The ſcenery truly alpine.

Sheep, of a diminutive ſize, are grazing among the ruins of the Caſtle. Various in head, as thoſe of Weſt Devonſhire and Cornwall. Some of them reſembling very much, in head and carcaſe, the ſize apart, the improved breed of Dorſetſhire.

The ſite of the Caſtle, and the ſteep rugged height, on the face of which it ſtood, appears to be compoſed of ſlatey rock, ſimilar to that of Weſt and South Devonſhire.

Upon this eminence, and on the Weſtern brink of the Baſon, ſtands the principal Church of Okehampton: proudly ſituated; and forming a good object from the oppoſite height; making one feature of a fine landscape.

The entire Environs, and the views from them are rich and beautiful; but the ſcale is ſmall. A truly monaſtic ſituation; ---rich

—rich and recluse---yet, I believe, without the vestige of a monastery!

The fertile swells are now loaded with grafs; and some of them stocked with good Cows, of the North Devonshire breed. But little corn; and most of this is still in the field. The North side of a Mountain District is naturally liable to a backwardness of climate.

OKEHAMPTON
TO
TORRINGTON.
(17 Miles)

MONDAY 15 SEPTEMBER, 1794.

ASCEND, by a steep ill conducted road, the Western banks of the Oke, and leave the cultivated Environs, at one mile from the Town.

Delightful morning!

The Okehampton hounds are gone out, towards the hills of Dartmore, another pack
now

45 OKEHAMPTON to TORRINGTON.

now pass the carriage, towards the opposite hills. A finely wild sporting country.

Enter an extensive furze-grown Common; apparently well soiled, and the sub-soil rotten slate. Land fit for almost any purpose of Husbandry.

Several plots of this Common are now sodburnt and liming for Wheat! The entire Common lies in narrow ridges, as if it had undergone the same operation, and been suffered to lay down again to rest, after one crop of corn had been thus taken.

The Stock, now on this ill applied tract, are small Sheep; similar to those near Okehampton.

A rich Valley opens to the right: to the left, a mixed Country; marked by the Church of Ingerley: a pleasing though gayly coloured object. But the morning is fine; and Nature herself appearing gay, a white washed steeple assimilates with the scene.

Enter an inclosed, but rough, upland Country.

Farm houses and Cottages mean: mostly of mud and thatch.

Hedgemounds

Hedgemounds in the manner of West Devonshire ; but not, in general, so high.

See red soil, in the valley to the right.

More furze-covered Commons ;—highly improveable : a waste of property to suffer them to remain in their present unproductive state. A patch of Wheat stubble on one of these Commons, discovers, in its own strength, that of the land.

Some rubbishly ill bred Cattle, on these Commons. The natural produce of commonable lands.

Cross a cold clayey Dip ; and enter more extensive Commons. Thousands of acres of dwarf furze, which ought to be sup- planted by Wheat, Beans, and Clover.

Some Timber Trees seen scattered over the Inclosures.

Grass Inclosures velled for Wheat ; as in the South of Devonshire.

The spring and the autumn furzes are here intermixed, as in Cornwall and West Devonshire.

A billowy, wooded, Kentish view opens to the left.

A newly

A newly planted Hedgemound. The plants as thick as the arm, and cut down to two or three feet high, as in West Devonshire. The Hedgewoods Birch, Hazel, Ash.

Enter a cold-soiled Woodland District. Instance of Scotch Firs planted on this cold retentive soil!

Still more extensive tracts of dwarf furze. Not only the Commons, but some Inclosures, are cropped with this unprofitable plant; the whole of these furze grounds lying in narrow Wheat ridges.

The common Sheep, here, are small and mostly polled.

A large parcel of hewn Timber, fit for Ship Building, collected by the side of the road.

The subsoil of these Commons is a red clayey gravel.

Enter an inclosed, red soiled plot of Country,—the immediate Environs of

HATHERLY: a mean market Town: mostly or wholly built with red earth and thatch. Some of the houses white-washed, others

others rough-cast. Observed Reed in sheaves; as in the Western parts of the County.

A beautifully wooded Dip breaks; to the left: the valley of the Torridge.

Leave the red soil; about a mile from Hatherly. The subsoil a deep grouty rubble: red as oker.

Enter a cold, vale Country. The subsoil a pale coloured clay.

A narrow flat of river-formed land.

Buildings entirely of clay.

Four Oxen, two Horses, two Men, and a Boy, at plow!

A shameful fall of young Timber.

A charming broad wooded Bason, now opens to the West;---between Hatherly and Sheepwash:

And, now; a wide flat of Marshes to the right; apparently in a wild, neglected, unproductive state.

Hewish, Sir James Norcliff's, appears on the opposite banks of these marsh lands.

A bad Turnpike road traces a high ridge of cold white clay,---commanding a strongly featured country.

Ridges of Lime and Earth, for Wheat, are common in the adjoining Inclosures.

Coppice Hedges universal.

Descend, by a steep road, into a well soiled Dip of Land. The subsoil slaty rubble, or rotten slate rock.

Very few Orchard Grounds in this Country.

Ascend "Padstow" Hill: an insulated eminence; commanding a fine circle of views. To the South, the Mountain of Dartmore rising bold to the view, and forming a remarkably strong feature from this point. To the East, the rising banks of the Oke and the Taw; apparently, well soiled, and well cultivated; the foreground of this view, the Valley of "Marland"---or Marshland, in a state of neglect,---much of it occupied by furze; to appearance, highly improveable. To the North, a ridge of well soiled arable upland. To the West, a well wooded District.

A delightful morning: with the Lark in full song:---and with hounds in full cry!

A distant view of the North Country, now begins to open.

The

The Country, here, wholly inclosed :
mostly in large square *Devonshire* Fields.

Passed the first Cart : drawn in the Cleve-
land manner ! three horses ; one in the
shafts, the other two abreast, and guided
by reins : loaded with bark, for the port
of Biddeford ; to be there shipped for
Ireland.

Cross a well timbered Hollow. Much
valuable Ship Timber, in this District.

Close woody lanes,---how tantalizing to
a Traveller !

Enter a well soiled passage ; mostly
arable. Some patches of Turneps and
Clover.

Very few Field Potatoes in this District.

A Box : Winscot : the first *House* I have
passed, in this stage.

Still a well soiled arable Country. Farms
seemingly of good size ; and not ill culti-
vated.

Observe several good Horses. Q. Bred
in this District ?

Another passage of good upland Country.
Skirted by a cold rushy bottom.

Meet a string of Lime Horfes, from Biddeford ; eight or ten miles.

Lime, here, a prevailing manure.

Hedgemounds increafe in height : this, altogether, a South-Devonshire-like Diftrict.

An extenfive view opens to the left.

Instance of a cropt Hedge. What a lofs to the Traveller, that the practice is not prevalent.

Large white Pigs, in a good form.

A fine view of the Valley of Torrington burfts upon the eye.

Orchard Grounds encrease.

A charming back view of the Valley above Torrington : well formed ground, happily enriched with wood and water.

An extenfive and rich view, to the right, including the Eastern banks of the Taw.

An instance of limed Grafsland.

Dip down to the Bridge of Torrington.

GENERAL REMARKS.

THE Townships, in this ftage, appear to be of the middle fize. The Churches, in general, tall and confpicuous.

Of

Of the State of Inclosure, it may be said, that about half the lands, which fall immediately under the eye, are inclosed; the rest, in coarse furzey Commons, capable of great improvement.

The Fields are generally well shaped, and well sized; as in West and South Devonshire.

The Fences, throughout, are similar to those in the Southern parts of the County. But the Mounds are somewhat narrower and lower.

Woodlands extensive. Oak the prevailing wood. Much fine Timber; much also in a state of Coppice.

The Orchard Grounds are few and small.

The Arable Crops appear, by the stubbles, to be chiefly Wheat and Oats: but altogether small, in proportion to the Grasslands and Furze Grounds, which occupy this Line of Country; especially towards Okehampton.

The Climature somewhat forwarder than about Okehampton. The crops mostly harvested,

The preparations, now going on for the next year's crop of Wheat, are the very same, here, as in the South of Devonshire; namely, ley ground burnt and limed.

Very few Cattle, or Sheep, are seen in the Inclosures; which are now full of grass.

The state of Husbandry, on the whole, is considerably below par.

T O R R I N G T O N

AND ITS

E N V I R O N S.

THE TOWN is proudly situated on the brink, and partly hanging on the brow, of the Eastern bank of the Oke. It is a large inland Market Town; but has no thorofare to support it. There is no posting inn, in the place! and only one chaise kept for hire. Nevertheless, the Town is neat, and the people alive. Circumstances to be accounted for, only, in the many family residences, which appear in its neighbourhood, and which seldom fail to meliorate the manners

manners of every class of those, who fall within the sphere of their influence.

The view from the site of the Castle--- now a Bowling Green---is uncommonly fine. A wooded amphitheatre, richly diversified: with a lengthened bend of water in the middle ground: --- and with fox-hounds in the woods!

T O R R I N G T O N

T O

B I D D E F O R D.

(Seven Miles)

MONDAY, 15 SEPTEMBER, 1794.

A well foiled Common near the Town; stocked with small neat sheep.

Pass between well foiled Inclosures; a rich and beautiful Country.

Cross a lovely wooded valley: thriving Oak Timber; well thinned, and set out.

A small Yorkshire plow. The first I have observed in the County.

E 4

The

The surface broken, abruptly, into hill and dale : a truly Danmonian passage.

Surmount a clean upland Country. The substratum brown rusty rock.

Reach the summit of the ridge : a furze-grown waste. A broad view of the Bristol Channel meets the eye ; with extensive land views, on either side. On the one hand, Hartland Point is a prominent and striking feature ; on the other, Exmore ? rises boldly to the view.

Descend towards Biddeford.

Meet strings of Lime Horses, with pack-saddles and bags of Lime. Also two-horse Carts, with Lime and Sea sand.

GENERAL REMARK.

This Passage of Country, in Soil, Surface, and apparent General Management, perfectly resembles the South-Western parts of Devonshire.

BIDDEFORD

BIDDEFORD

AND ITS

ENVIRONS.

TUESDAY, 16 SEPTEMBER, 1794:

THE Town is remarkably forbidding. Meanly built houses (timber, brick, or mud, covered with bad slate or thatch), stuck against a steep hill. The streets, of course, are aukward; and most of them are narrow. In the vacant spaces between the streets, immense piles of furze faggots rise, in the shape of houses, and make the houses themselves appear more like hovels than they really are.

These dangerous piles of fuel are for the use of the pottery, for which only, I believe, this Town is celebrated: chiefly, or wholly, the coarser kinds of earthen ware.

The Bridge of Biddeford is an extraordinary erection: a high thick wall, run
across

across the river or narrowed estuary ; with Gothic gateways, here and there, to let the water pass.

The tide out : many men employed in loading packhorses, with sand, left in the bed of the river : and, in every vacant corner about the Town, composts of earth, mud, ashes, &c. are seen. Shell sand is said to be plentiful on the coast ; but little, if any of it, is brought up this river.

On the shore of the estuary, opposite to the Town, are several limekilns, now in full work. Numbers of packhorses, and a few carts, loading, or waiting for loads. The stone, chiefly, and the culm with which it is burnt, wholly, brought across the channel, from the coast of Wales. The kilns similar to those of West Devonshire. This lime is carried fourteen or fifteen miles ; chiefly on horseback.

STROLL

STROLL UPON THE HIGH LANDS, TO THE
SOUTH AND WEST OF THE TOWN.

The subsoil of the skirts of the hill, is a Slate rubble. A base kind of Slate is used as a covering.

Some charming views, from the midway stages of this eminence, To the North, the conflux of the estuaries of the Taw and the Oke,—backed by the cultivated hills of the coast. To the South, a beautiful bend of the narrowing estuary of the Oke, losing itself in the winding wooded valley of that river ; skreened, on either hand, by wooded heights, and backed by wilder distances. Each of these views is worthy of the pencil. The former is grand ; but the latter is more picturable, as a landscape. The home views, on every side, are pleasing. The surface finely broken ; resembling that in the environs of Bridport ; but the features are larger, and the lines less abrupt.

The soil, of this midway of the swell, is a fertile well coloured loam ; on a pale and stronger subsoil.

The

The whole country is inclosed ; mostly in large fields, with coppice fences—cut down by the wind : a circumstance more favorable to the admirers of natural landscape, than to the husbandman.

No hedgerow timber : but a few groups of trees are scattered on the hills. The steep banks of the Oke, are chiefly hung with coppice wood.

The farm produce chiefly grass ; with some little corn ; and most of it still out !

The stock, observable from this station, are cattle and sheep. The former in herds, as if the farms were large. The sheep are above the middle size,—and mostly polled.

Nearer the summit of the hill, the land is colder ; and the herbage coarse : abounding with Marsh Fleabane and other aquatic weeds. But the summit itself is again dry, found, and tolerably well soiled.

A wide circle of views are seen, from an Object House (in ruins) near the summit, A very extensive view opens to the South East. But the horizon is too hazy to trace it to its farthest distance. To the South West, a strongly featured upland District ;
large

large well turned cultivated swells, separated, and the face of the country diversified, by winding wooded vallies, in the best style of Kent or Herefordshire; with tall and stately towers of Churches scattered over the wide spreading scene.

On the upper stages of this eminence, and in descending its Western declivity, I observed many young horses; much of the Yorkshire breed; but somewhat shorter and thicker.

Also some good North Devonshire cows.

BIDDEFORD MARKET.

A few fat, and some store cattle; with three or four heifers and calves. The heifers somewhat small; but neat; and with remarkably fine bags! the most promising appearance of milk, that I have observed, in the Devonshire breed of cattle.

A few sheep, and two or three colts (weaned foals) in halters.

The Corn Market well filled with long two-bushel bags; chiefly of wheat.

The

The shambles full of good mutton;—
with a scanty show of beef.

Salmon in considerable plenty; but no
sea fish!

The women's market well supplied.

Cart loads of country bread, exposed in
the market place, for sale. A market
article, this, which I have not before ob-
served.

Upon the whole, the Market of Bidde-
ford may be set down as very respectable.

STROLL UPON THE RISING GROUNDS, ON THE NORTH SIDE OF THE TOWN.

These grounds are separated from the
hill on which the Town is situated, by a
creek of marshland, in its natural state, as
formed by the tide; excepting a plot of
seven or eight acres, which is now em-
banking: an operation, which, if it were
carried on, with *proper exertion*, could not
fail to pay threefold for the money expend-
ed. If the men, who are employed upon
it,

it, may be considered as a sample of the *Laborers* of North Devon, they exceed, in idleness, their Countrymen of the West.

A low bank, thrown up across these marshlands, furnishes, at once, a safe road, and gives effect to a tide mill, situated near one end of it.

A rich loamy soil to the very summit of this hill : a narrow ridge.

A good view of the Bay of Barnstaple, and its finely diversified coast : here, a flat shore ; there steep lofty cliffs.

Some charming near views are seen from these grounds. Tapley (Mr. Cleveland's) a fine situation, is seen with advantage.

The entire environs are studded with *houses* : some of them substantial ; others neat. Yet still we find the Town itself a contrast to Torrington. The influence even of half a score families is not sufficient to burnish the appearance and manners of a small seaport Town, in a remote situation.

GENERAL REMARKS.

The climature of this District is evidently later, than that of West Devonshire: much of the corn, grown in it, is yet out!

There are few orchards in these environs: Several carts appear; but no waggons: Packhorses are chiefly prevalent.

The state of husbandry is on a par, with that of the rest of the County, I have yet seen; or somewhat superior: a laudable assiduity, in collecting and mixing manures, is singularly conspicuous.

On a general view of the District, at this season, it resembles South Devonshire, so much, with respect to natural characters, and Farm Management, that, in a register of their Rural Economy, they might well be considered as one and the same District; excepting an observable superiority in the breeds of cattle and horses, in this part of the County; and except a somewhat freer use of wheel carriages, here, than in the South Hams, and West Devonshire.

BIDDEFORD

BIDDEFORD

T O

BARNSTAPLE.

(Eight miles.)

WEDNESDAY, 17 SEPTEMBER, 1794.

ANOTHER broken billowy District: high rotund swells, separated by deep narrow vallies.

The materials of these hills appear to be chiefly rotten slate, or rusty slate-stone rubble, similar to that of West Devonshire and Cornwall.

Creeks of marshland branch out of the estuary of the Taw: the soil of these marshlets is somewhat reddish. Now stocked with cattle. But they are at present in a rough unreclaimed state, and appear to be highly improveable.

The road of stone, and remarkably good.

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F

The

The stems of corn stacks thatched with reed.

Leave a sweet woody dell, to the right.

A stuccoed barn: mud-wall plaistered.

A breed of remarkably tall white Pigs.

Roof heaps of lime and earth compost,
on unbroken sward. Q. For Wheat?

Pass over a well-soiled upland country:
the substratum earthy slate, up to the soil.

A few stone buildings observable.

High mound coppice hedges, full of
growth.

The timber trees, *on this side of the*
County, are remarkably shorn with the
Northwest wind.

The wide valley of the Taw opens
to the view,—and the nature of the Country
changes, from clean sound land, to a cold
aquatic soil: alder swamps, rushy inclosures,
and rough furze grounds; with much oak
wood. The coppices in general healthy;
but the timber much injured by the coldness
of the substratum, and the winds from the
sea. One wood completely stag-headed:
a waste of property to let it stand.

Meet several flocks of “Exmore” lambs;
many

many hundreds ; invariably horned ; and, mostly, even in carcase ; on their way to the Northwest of Devonshire, and the North of Cornwall, to their winter pasture.

An instance of coppice wood, on a flat surface ; as in Kent and Suffex : the first instance of it, I have observed, in the West of England.

Enter on the descent into the vale, or valley, of Barnstaple.

A large field breast-plowed, and now burning.

Still a cold foiled, well timbered District. Much furze-grown rough ground ; which appears to be very capable of improvement.

See a heath-covered knoll, to the right. Good cows ; mostly of a dark blood-red colour.

Towards the foot of the hill, the land improves. A broad flat of meadows and marshlands.

Good grazing cattle, in rich marshes.

Some large houses are seen, among the fine scenery, on the opposite banks of the valley.

The bridge of Barnstaple is similar to that of Biddeford.

GENERAL REMARKS.

The climature improves; no corn observable in the field, in this stage.

The produce—arable crops, grass, wood, and roughets of furze, and rubbish.

Townships—apparently large.

The whole Country inclosed;—mostly, large square fields.

The farms apparently of a good size.

The fences truly Danmonian.

The cattle, which appeared, are of a good sort. But not superior to what I expected to have seen, in this neighbourhood.

No Sheep observed, in the inclosures:

Nor wheel carriages, on the road.

In the general state of husbandry, nothing new struck me, in this passage of country.

The most obvious improvement, of which it appears to be capable, is that of draining, burning, and fallowing, the cold rough lands.

BARN-

BARNSTAPLE

AND ITS

ENVIRONS.

THE day incessantly rainy, and ill calculated for pedestrian examinations.

The Town is respectable. The streets are wider and better laid out, than those of old Towns generally are. Many of the houses are substantially built of brick. But the covering, here, is of the same mean-looking slate, as that which is in use at Biddeford.

Leith carts and Highland sledges (or implements very much resembling them!) are seen in the streets of Barnstaple.

Some small craft in the river, and in a creek which washes one side of the Town. And two small vessels on the Stocks.

Pilton, a pleasant village, adjoins to Barnstaple.

A bold Promontory, which rises abruptly in the center of the broad valley, above the Town,—severing the Taw from the Brook of Pilton and its sweetly winding woody Dell,—forms a striking feature, among the assemblage of picturable scenes, which the environs of Barnstaple appear, even through the dim medium of rain, to be capable of affording.

BARNSTAPLE

TO

SOUTH MOULTON.

(Eleven Miles.)

WEDNESDAY, 17 SEPTEMBER, 1794.

A RICH flat of meadows and marshlands, above the Town; nearly a mile wide: evidently formed by the tide and floods.

The Country, on either side, picturably broken, and well wooded.

Some fine Cows now in the meadows.

Sea

Sea sand compost is here in use.

Pass through Newport, a large village.

The Buildings chiefly Earth and Thatch;
but some Brick, Stone, Slate, and **Pantile**,
in use.

The breed of very tall white **Pigs** still
continues.

Meet more Exmore Lambs going West-
ward to their wintering grounds.

The day is **set in for rain**; yet the appear-
ance of the **Country** is delightful beyond
description. **Perhaps** rain, as varnish,
mellows the Views.

The substratum, here, slatey rock; worn
into hollow ways.

Lofty **swells** productive to their **summits**,
as those of the South Hams.

The prevailing subfoil, slatey rubble.

A valley opens to the left; richly soiled,
well cultivated, **and** stocked with fine cattle.

Some large orchards in this valley.

Close woody hedges, with **some** timber
in them.

The roads in a **shameful** state: evidently
injured by the hedges. Why is not the
Law enforced? In this Country, where

72 BARNSTAPLE to SOUTH MOULTON.

woodlands abound, and where coals may be had at a reasonable rate; no serious evil could arise were all the hedges in it thorn to their mounds.

Sea sand composts are still seen by the side of the road (5 miles from "Barum").

A small waste hillock appears to the right.

The substratum—a mass of rock, broken into chequers,—and rising to the soil.

Get a broad view of the rich and beautiful VALLEY OF SWIMBRIDGE.

A large flock of Sheep appear on its base.

Instance of Oats now green as Grass! the second instance observed?

A wide view opens to the East; but is curtailed by the hazyness of the atmosphere.

Rich grassland, to the summits of the fells.

The Valley of the Taw opens, at some distance to the right: a wooded District.

A fine back view of the Estuary and its banks: broad, but grand, and picturable.

An obvious improvement, in the line of road. The hill is crossed, when its base might be traced nearly on the level.

The

The fields in this Country, as in the South of Devonshire, appear to be large in proportion to the Farms.

A breed of small sheep; apparently with fine wool.

Rock and slate rubble rise to the soil of rich grassland.

Grazing Cattle, on the higher hills; as in the South Hams.

Meet a pair of wheels: the first from Biddeford.

The road improves.

A sweet Country; but most difficult to be seen! A distant view, at length, opens to the East.

Black Limestone road: tolerably good.

Philley, Lord Fortescue's noble place, breaks at once upon the eye: a finely wooded basin. The Timber abundant, and seemingly well set out.

A herd of young cattle, and a flock of sheep, in the grounds about the house.

The Farmery large; bespeaking a suitable portion of demesne in hand.

A very

A very deep quarry of black Limestone. Similar, in appearance, to the Chudleigh marble: but the color is less bright.

This capacious quarry is not less than fifty feet deep. The stones are brought up from the lower depths on horseback; and the water raised by a horse pump.

Pass a string of two-horse carts, guided with reins, in the Cleveland manner! Has a colony of Clevelanders formerly settled in North Devonshire, and brought with them their carts and horses? See page 51.

Vile roads again: and in the neighbourhood of a great man's residence! But, perhaps, his Lordship's Lime Work is the principal cause of the evil. The color of the materials, and the state in which they at present lie, give them every appearance of roads to Coal pits.

Still an inclosed, well soiled Country.

A stately Tower, proudly situated. North Moulton?

Mount a rich well turned swell, and enter the Town of South Moulton.

SOUTH

SOUTH MOULTON

AND ITS

ENVIRONS.

THURSDAY, 18 SEPTEMBER, 1794,

THE TOWN, which consists of a spacious well built Market Place, surrounded with inferior streets, caps a rotund hillock, situated among other hillocks of a similar nature, and wearing similar appearances; rich and beautiful in a superior degree.

The soil a rich greazy loam.

The subsoil pale rubble, or rotten slate, or a kind of soft checkered rock.

Some wood in the vallies; but not one acre of unproductive land, to be seen, in the neighbourhood. One of the finest farming Districts in the Kingdom.

Walked towards the Barton of Great Hill to view Mr. Trigg's Breed of Cattle; which is reckoned one of the first in this neighbourhood.

bourhood. And the District of South Moulton is spoken of as the first, for the North Devonshire breed.

Saw six of his Cows. All of them good. One of them superior to the rest: remarkable in the carcase; well loined, wide at the hips, and square in the quarters; with a fine head and bone. The horns also fine, and shorter than ordinary. The color a lightish blood-red; the rest darker, and mostly with smokey faces. All of them low on their legs: a size between the Gloucestershire and the Herefordshire.

The day is too tempestuous, to keep the field: and I have already gained a sufficient idea of the North Devonshire breed of Cattle. A farther examination might gratify; but could not instruct; they are evidently a superior variety of the middle-horned breed. And are of course one of the first breeds of Cattle in the Island.

GENERAL

GENERAL OBSERVATIONS,
ON THE COUNTRY BETWEEN BIDDEFORD
AND SOUTH MOULTON, INCLUDING
THEIR ENVIRONS.

IN a general view of this Line of Country, —whether we attend to the height or formation of its surface,---to its soil, its substrata (a short passage on the West of Barnstaple excepted), or their present produce ; to the state of inclosure, the size or shape of fields, or the nature of their fences, ---to the species of arable crops (no trace of the bean crop or other article of pulse now observable) ; or the manner of producing them (so far as it appears at this season) ; or to the livestock or animals of labor (except as above excepted*)---it so perfectly resembles the District of South Devonshire, that they might be conceived to have once been united ; and to have been forcibly separated, and thrown into their present

* See P. 64.

present situations, by the Mountain of Dartmore, in one of Nature's convulsive paroxysms, having broken them asunder, and placed itself in the breach.

SOUTH MOULTON

TO

DULVERTON.

(Thirteen Miles)

THURSDAY, 18 SEPTEMBER, 1794.

AT less than two miles from the Town, leave its fertile Environs.

A pretty but unproductive valley to the left: alders, rushes, and rough grounds.

Climb the side of this valley. The substratum close rock, up to the soil: no intervening rubble, or other earthy subsoil: the land lean, and the produce weak: a contrast to the neighbouring lands; though the soils appear to be similar.

Another rainy day, with a storm of wind.

Meet

Meet a *drove* of *cart horses*; and a string of saddle horses, on their way to the Fair of Barnstaple; the property of a Dorsetshire Dealer.

Mount a rough *furze*-grown height, an extensive Common,---and catch a broad view to the South: apparently, a cold infertile District.

Bend to the left, from the Tiverton road; and enter narrow *woody* lanes, barely pervious, by a carriage.

Break out of this pass, into other Commons; and nearly approach the heaths of Exmore; a narrow valley only intervening.

EXMORE, in this point of view, is without feature; appears as a flat, or at most, a tamely billowy heath. Its hills scarcely rise above the cultivated swells that environ them. This side of it, at least, has not a trait of the Mountain character.

Wind *along* the brink of the valley. The opposite banks apparently well *soiled* and well cultivated; though they form the immediate skirts or margin of the Moor.

Some *wooded* Dells branch out of the valley.

Sheep

80 SOUTH MOULTON to DULVERTON.

Sheep on these Commons, similar to those of West Devonshire and Cornwall! part horned; part hornless.

See corn in arrish mows; or small field stacks.

Trace a ridge of cold land: a woodland soil; and leave a similar dip to the right.

Enter and skirt a wide fern-grown Common: large plots of fern now in swath. Also dwarf furze, and some heath. The soil deep and culturable.

Approach still nearer the Exmore Heaths: now crimsoned with blossoms; which brighten as the day clears up.

The soil of the Moor Skirts somewhat red.

Laid out in large square Danmonian Fields. Much of it in a state of arable land: a few Turneps.

The valley widens, and breaks into well foiled hillocks. The two parishes of East and West Ansley appear to be in a good state of culture. Several plowed fields; apparently clean fallows.

Meet strings of Lime Herfes; from Bampton Lime Works.

Several

Several instances of good young Cattle, of the North Devon Breed.

Building Materials---Earth and Thatch : an entire suite of new Farm Buildings, just finished, of these materials.

Loose sight of the Exmore Hills ; but still keep the brink of the valley ; having enjoyed a tolerably level road for seven or eight miles !

Holly abounds in this cold situation : it is seen to mix frequently with the Alder.

Leave the high ground, and descend into the valley. Subsoil slatey rubble.

Stirring Wheat Fallows, with four oxen : the first oxen, and the first plow, I have *seen* at work, in North Devonshire !

Narrow Wheat ridges, as in West Devonshire.

The road, of black Limestone, is narrow but well laid out,

Thick polled Sheep, as in the South Hams.

Instance of watering Grassland : the first I have *observed*, in North Devonshire.

“ Dunstone,” and good Grassland, as about Moulton.

A Lime kiln : black stone, lodged among
 "Dunstone."

Some tolerably large Orchards ; with
 low *Devonshire* trees ; though within the
County of Somerset.

Another Sea, or rather Bay, of rich
 Danmonian swells.

Approach DULVERTON ; by another
 Gothic bridge.

DULVERTON

AND ITS

ENVIRONS.

THIS small Market Town is situated in
 a deep narrow valley ; chiefly near its base,
 but somewhat climbing up its Eastern bank.
 The Church conspicuous and neat ; and
 the place altogether, has a plain, neat, and
 pleasing appearance : and immediately
 below the Town is a small place, Pickston,
 belonging to the Ackland family.

The approach from Moulton is singularly
 striking. Pickston, a plain dressed place,
 first

first meets the eye ; and immediately the Town, equally unsuspected, bursts abruptly into the sequestered scene : a rich and beautiful Bason, hemmed in on every side ; the valley to the North being closed with steep winding banks hung with Coppice wood ; and, on the other hand, the rising grounds and woods of Pickston form an impervious skreen ; the Exmore Hills just showing themselves above the middle ground of the view ; a meek, modest, lovely little picture.

WALK UPON THE HILL ABOVE THE TOWN.

A charming view, from the midway of the steep, of the valley below (in this point of view also closed in as a bason), including Pickston.

Reach a deserted place of view, on the summit of the hill ; and catch a most interesting detail of the winding valley of Dunbrook ; the eye tracing it within the wilds of Exmore : steep, narrow, and

G 2 thickly

thickly wooded ; with a slip or coomb, of water formed land, waving with the stream ; a finely alpine scene.

At a sharp bend of the valley, immediately under the eye, and facing a long reach, that points to the North West, the Coppice wood is cut down, by the wind, in a very singular manner ; even at this distance---twelve or fifteen miles---from the Sea. But the bleak air of Exmore may, alone, be equal to produce the effect.

The soil of this Eminence is dark-colored and fertile, to its highest ridge.

Large fatting Wedders now grazing upon it.

Some fine Cows, on a neighbouring swell.

Whichever way the eye is turned, it meets with something rich or beautiful. But perhaps its judgement has been warped by meeting with more than was expected. The style of scenery is singular. There is much in the situation of Dulverton that reminds me of Blair of Athol ; though, in scenery, they somewhat differ.

DULVERTON

D U L V E R T O N
T O
T I V E R T O N.

(Thirteen Miles)

THURSDAY, 18 SEPTEMBER, 1794.

PASS under Pickston House, a low white building, within a deer paddock.

Many sheep observable in the basin of Dulverton : all thick-carcased, and polled.

Observe several wheel carriages,---carts and waggons,---on this road, and in Dulverton : on their way to and from Minehead, and other parts of the Coast,

Three-wheeled barrows, drawn by horses ; used in setting about manure.

Beginning to sow wheat. Shovel out the interfurrows ; as in West Devonshire.

The valley contracts, and the tall impending trees, with which its sides are hung,

appear to close it, as below Blair *. But, breaking through this *pass*, a wide valley, diversified with bold rotund knolls, is entered.

Lime horses seen creeping up the steep sides of the hills,

More good Cows in the valley.

The road good, and the day fine.

The soil of this passage is redish;—the subsoil rubble, the lower stratum rock; seldom-failing criteria of fertile land.

Leave the valley, and surmount a rough furze-grown height.

A few large Beeches scattered over this District.

Catch a good back view of Exmore, and seem to leave it.

A wide view opens to the South West.

Still keep the hills; a well soiled, upland District.

See the Exe, at some distance, winding at the foot of a tall steep woody bank; a passage of natural scenery,---sketched with a broad free pencil.

Descend

* A Seat of the DUKE OF ATHOL, in the Perthshire Highlands.

Descend precipitously into another fertile and reclusé plot of Country ;—the beautiful Environs of Bampton.

BAMPTON—a small mean market town ; overlooked by an extensive Limework, whose ragged excavations and heaps of rubbish seem to conspire with the town to disfigure this sweetly designed passage of Nature. But the face of a Country cannot be disfigured to a better purpose, than that of contributing to its improvement. These works are said to have been carried on, time immemorial, for the purposes of husbandry.

The strata of these Quarries lie steeply shelving. The Limestone, in thick seams of large irregular blocks ; divided by thin seams of redish base stone ; and by thicker strata of brown earth ; some of it soft and light as foot ! and soils the fingers as foot or oker ; having every appearance of a valuable pigment. The workmen call it “ rotten stone.”

The stone, in general appearance, resembles that of Chudleigh ; darkly colored, and interspersed with white veins ; but the Bampton stone has a purplish cast, and

sparkles with micaceous particles, and is of a looser texture, than that of Chudleigh.

The rubbish of the Quarries is carried out on horseback; and the stone drawn up to the kilns, in three wheeled HORSE BARROWS;—which, an old Laborer tells me, have been used, in this Country, beyond memory.

The construction and dimensions of one of these barrows are as follow: The form is that of the common old-fashioned wheelbarrow of most Districts. The sides nearly upright, somewhat spreading outward, and projecting behind the body of the barrow; and are there shaped into handles; for the purpose of moving it, by hand; or adjusting it readily to the required situation. The hind wheels are fitted upon a square axle, which is placed under the hind part of the body of the implement; and which turns round with them, as that of the Highland, and Cumberland cart. The fore wheel has a drag chain adapted to it, to check the motion of the carriage in descent. The three are nearly of the same size and construction: namely, each a circle of thick plank,

plank, about two feet diameter, and bound with iron. The width of the body of the barrow is three feet, behind, two feet six inches, before, and four feet long. The depth of the sides, and of the head and tail boards, twelve inches. The headboard leans somewhat forward, over the fore wheel; which is rather smaller than the hind ones, and turns on iron spindles, inserted in the part of the sides which project before the body of the barrow; as in the ordinary wheelbarrow. The draft is by common crane-neck staples, fixed on the outside of the fore part of the implement, near the pivots of the fore wheel*.

The fuel of these Limeworks is Welch culm, fetched, by land, from Watchet, sixteen miles.

Draw

* **BAMPTON BARROW.** This implement might be used with great advantage, on many occasions; especially in moving earth, or other heavy loose materials, a short distance. It is more manageable, by hand, than the Gurry Butt of West Devonshire, and carries a much greater load. I traced it from Dulverton to Tiverton; and saw one near Taunton. I have not observed it, in any other part of the Island.

Draw the kilns, with heartshaped shovels, formed of parallel bars, as the gridiron; the interspaces suffering the ashes and small lime to drop through; and thus cleaning the stone lime, at an easy expence of labor. The price of stone lime, three shillings the hoghead;—of the ashes, two shillings, for the use of the Mason!

Several orchard grounds, in the neighbourhood of Bampton.

Ascend a long steep hill, and catch another back view of Exmore, and of the finely diversified environs of Bampton and Dulverton.

Reach a rough, improveable, red-soiled height; from which Dartmore, for the first time, is seen rising to the view.

The Exe still continues to wind among high upland swells, which rise on either side of it: the surface gently billowy; the Downs of the Southern Counties, or the Wolds of Yorkshire, in a state of inclosure.

The Soil, Subsoil, and Road, red.

A dunged fallow; the first observed, in this journey.

Field

Field stacklets common.

Pass between Beechen coppice-hedges.

The VALE OF EXETER bursts open, with fine effect. Also a broad view of the more Eastern confines of Devonshire presents itself.

Now, a rich Vale view, of the Bradnich quarter of the Vale of Exeter, is spread under the eye.

Descend, by a long broken steep, to TIVERTON.

REMARKS.

The elevation of this passage is very great, for a well-soiled cultivated District. The higher lands are nearly equal in elevation to the Exmore hills; yet

The climature is forwarder than that of the North coast, whose lands lie lower: the harvest, here, is entirely finished.

The surface billowy, in the strictest sense: no regular ridge and valley. The river and brooks seem to wind among the hills.

The

The soil, in general, is rich and productive, as that of Vale Districts ; except the very summits of a few of the highest hills.

The subsoil, of the best lands, is invariably a slatey rubble ; the under stratum, a loose rock, broken into checkers or long-cube pieces, of sizes according to the depth at which they lie ; enlarging in size as the depth encreases ; until the rock becomes close and firm. The *substance* of this rock, whether entire or broken, appears to be the same as that of Slate, but wanting its laminated *texture*.

FUR.

FURTHER
GENERAL REMARKS

O N

NORTH DEVONSHIRE *.

THE Inhabitants, throughout, appear to be civilized and intelligent; the lower class differing much, in these respects, from those of the mining country.

Their fuel—wood and Welch coals.

Their employments—husbandry, and the worsted manufactory.

The Farmers appear to be of the middle and lower classes: mostly, plain, decent-looking, working Husbandmen, of twenty to fifty or a hundred pounds a year. I saw few, if any, which appeared to be of the superior order of Farmers..

The woodlands are mostly in a state of coppice.—Some timber; but not much large

* For former Remarks, see page 77.

large Ship timber observed; except between Okehampton and Torrington.

The Orchard grounds of this District appear to be inconsiderable, compared with those of the other Districts of Devonshire.

No Rabbit Warren fell under the eye; indeed the lands, passed through, are in general too good for that application.

To Apiaries, however, the goodness of the lands cannot be an objection; yet I observed few, if any Bees, in this large tract of country.

The state of Husbandry, from this cursory view of it, appears to be superior to that of South Devonshire; and on a par with that of the kingdom at large. In the management of Livestock, especially Horses, Cattle, and Swine, North Devonshire, it is probable, has, for some length of time, paid more than ordinary attention.

DISTRICT THE FIFTH.

THE

VALE OF EXETER.

THE information I obtained, respecting this highly favored District, and its Rural Practices, arose in TRAVELLING repeatedly through its central parts, in different directions; in examining, at different times, the ENVIRONS OF EXETER, TIVERTON, and HONITON; and in going over that part of the DRAKE ESTATE, which lies within its limits. The Western parts of the District, the neighbourhood of CREDITON, is the only part which has not engaged more or less of my attention.

As the materials, which I occasionally gathered, lie scattered in my Journals, I
will

will here collect them into the Register form; as being best calculated to give a comprehensive idea of this interesting passage of country, which deserves a more minute examination, than I have been able to bestow upon it. However, from what will here appear, we shall find it resemble so much the other parts of Devonshire, which have been more closely examined, that a minute detail is the less requisite.

A GENERAL

A
GENERAL VIEW
OF
THIS DISTRICT.

I. **SITUATION.** This natural District is more accurately defined, than any other Division of the WEST OF ENGLAND. It accompanies the Exe and its estuary, from the sea to the Tiverton hills, just described, which form its Northern boundary. This boundary is continued, towards the East, by Black Down, to the Heights of Honiton; the South-East quarter being contracted, by a range of barren high lands, between the Otter and the Exe. The West side of the estuary of the Exe is, in like manner, contracted, by Hall Down, and a continuation of the same range of Heights, to the North of Exeter; where the Vale spreads

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H

West-

Westward, to the neighbourhood of Crediton. The Northern extreme of Dartmore, or the unproductive lands in its vicinity, with the range of hills first mentioned, define its more Western boundary.

II. EXTENT. The irregularity of the outline, of this Vale District, renders it difficult to calculate its contents, with exactness. If I were to risk a random estimate, it would be, that, including its marginal banks, and some unproductive hillocks which rise in its area, it contains about two hundred square miles of surface.

III. ELEVATION. This is by far the least elevated extent of surface, in Devonshire. It may be termed a Vale District; especially the central and more Southerly parts of it. It is overlooked by lands of much greater elevation, on almost every side.

IV. SURFACE. There are two modes of examining and judging of the surface of a Country, like that which is now under notice. Its more prominent features, and
greater

greater variations, are best observed from the eminences which overlook it: its smaller inequalities, by travelling across it.

I have had abundant opportunities of examining the Vale of Exeter, in both these ways. From Black Down, and other Eminences of the Eastern Confines,—from the Halldown Hills, on the opposite side,—from the Tiverton Hills on the North,—and most especially from an insulated Hillock, some mile or two to the North of Exeter (from whence almost every square mile of its surface is commanded), I have seen its greater variations; and, by travelling between Honiton and Exeter; Honiton and Nutwell, on the Eastern banks of the estuary, below Topsham; between Nutwell and Exeter, by different roads; and between Exeter and Bradnich, Columpton, &c. to Taunton; I have had opportunities of observing its minor inequalities.

On the whole, it may be said of this District, that although it partakes more of the character of a Vale, than any other part of the County, it is barely entitled to that

distinction. Between Tiverton and Exeter, it is beset with prominences of considerable magnitude, obliterating, in some points of view, the Vale character; and between Exeter and Collumpton, much billowy surface intervenes: nevertheless, round Ottery, the Clyfts, and along the Eastern bank of the estuary towards Exmouth, and in the environs of Exeter,—we find much true Vale country: deep rich soil, lying with a surface, sufficiently elevated, and sufficiently varied, to admit of mixed cultivation; with a portion of low flat lands, adapted to the production of herbage only.

V. CLIMATE. The frequency of rain, which renders West Devonshire uncomfortable to live in, and, in a wet season, ungenial to Agriculture, is much less experienced in the Vale of Exeter. The passing vapours that are sufficiently buoyant, to elude the attractive powers of the more Westerly mountains, travel undisturbed over this passage of depressed surface; whose climate appears, by the opportunities I have had of observing it, whether in the Spring,

Spring, or in the Harvest months, to be forwarder, than that of any other part of the WEST OF ENGLAND, which has particularly engaged my attention.

The winters of this, as well as of the more Western Districts, are mild, compared with those of the central and Northern parts of the Island. In the neighbourhood of Exeter, Grass may be said to grow freely, through the winter months; at least, in moderate winters.

VI. WATERS. The EXE, and its fine ESTUARY below Topsham, are its chief waters. But two principal branches of the Exe, divaricating East and West, and a portion of the OTTER, with their numerous branchlets, water the interior of the Vale. At Tiverton, the Exe has barely acquired the River character. And even at Exeter, it ranks low among the Rivers of the Island.

VII. SOIL. This varies exceedingly, and shows the District, it covers, to be formed with fragments of various origin.

This diversity and intermixture of soils will best appear, in detail, as they fell under my observation.

HONITON TO EXETER. The soil various : much deep strong good land. Part brown ; part strongly tinged with red. The first red soil observed, in entering the West of England.

ENVIRONS OF EXETER. The soil round the Town is a redish, deep loam, of an extraordinary quality. To the North of the Town, it varies in productiveness, with the substrata. Where the rock does not rise too near the surface, it is productive to the summits of the higher swells. On the South, between Exeter and Topsham, a rising ground, of some extent, exhibits arable land of the first quality : Wheat, Beans, and Flax, luxuriating on some parts of it ; other portions of it, being of a lighter weaker quality. Much of the red soil, in the neighbourhood of Exeter, is of a strong, argillaceous, binding quality ; and, as such, differs essentially from the ordinary siliceous soil of the County.

EXETER

EXETER TO NUTWELL (by Heavytree and Bishop's Clyft). The foil and subfoil inclined to red, intermixed with a small quantity of gravel; the whole hardening, in some places, into a sort of pudding stone; which is used for ordinary buildings.

ENVIRONS OF NUTWELL *. The foil various: some strong good red land; much dark, pebbly loam, of a tolerable quality; some light sandy foil; and other still poorer, black, and moorlike. At the feet, and hanging on the sides of the marginal swells, above Woodbury, a cold weak woodland foil is prevalent.

EXETER TOWARDS TAUNTON. The hills, in general, light turnep and Barley land. In the intervening passages of Vale, a strong red loam is prevalent;—good wheat and bean foil. About Bradnich, a rich valley of grassland.

ENVIRONS OF TIVERTON. The foil, in general, red, and much of it of a superior quality: towards Maiden Down, through

H 4

Hal-

* The residence of the late SIR FRANCIS DRAKE, now of LORD HEATHFIELD.

Halberton, three or four miles from Tiverton, is a passage of red-soiled rich Vale country,

VIII. SUBSOIL. It might be thought superfluous to detail the remarks on this subject, which I made in different parts of the Vale: let it therefore suffice to say, that the lands of the Vale of Exeter, as those of other Districts, are characterized by their respective substrata, rather than by their surface soils: that the strong red soils cover strata of clay or loam of the same color: that the strong brown soils are likewise incumbent on brick earth, of a kindred color; that the rich productive lands, round Exeter, towards Tiverton, and in various parts of the area of the Vale, have a peculiar kind of earthy gravel for their basis; and in some places, as on the banks of the Exe, a cleaner gravel is observable. On the West side of the Vale, some of the higher lands have a sort of slate rock rising to the soil. But the prevailing subsoil of the high grounds, which rise in the area of the Vale, is a red sand.

And

And in an instance, between Tiverton and Maiden Down, a variegated substratum is seen; composed of thin layers of red and white loam and sand; resembling what is observable in Gloucestershire, and under the red lands of Nottinghamshire. These circumstances plainly show, that the Vale of Exeter has been formed from various materials, and of course exhibits a variety of lands.

GENERAL REMARK.

This intermixture of lands is seen, in an interesting point of view, from the insulated hillock, already mentioned, in the neighbourhood of Exeter (Stoke Hill I think it is called).

The deep rich Vale lands are thickly set with Hedgerow Elms, pruned up to poles, and rising in close order, as we see them in the Vales of Gloucestershire, and on the rich deep lands in the neighbourhood of the Metropolis! Has this species of produce, and this peculiarity of practice, risen
spon-

spontaneously out of the nature of the lands? or has the tree, and the method of treating it, been imported from the Continent, established on the banks of the Thames, and from thence transplanted to those of the Severn and the Exe?

IX. On the POLITICAL DIVISIONS of this District, I find few remarks; except what relates to the sizes of TOWNSHIPS;—which appear to be smaller, than what I have observed in the other parts of Devonshire: a circumstantial evidence, this, among others that will presently be adduced, that the fertile Vale under notice was early *cultivated*, and thereby acquired an early population.

X. PUBLIC WORKS. The only INLAND NAVIGATION, which this District at present enjoys, is that of the Estuary of the Exe, to Topsham; with an artificial Navigation, from thence to Exeter. And, perhaps, the only CANAL that could be prosecuted with profit, to the County at large, would be one from Exeter, by Crediton,

diton, to Okehampton, there to join the one proposed, between Biddeford and Plymouth *. And even this I suggest with diffidence, from my not having sufficiently traced the ground, in detail. The *Line* is, in every respect, what could be wished. If this triple Canal should be executed, Devonshire might, with good reason on her side, boast of her acquired, as well as of her natural advantages. Possessed of such a public work, she would stand unrivalled in facility of internal transfer: there would scarcely be a farm in the County, situated at more than one day's journey of a team from water carriage;—an accommodation, whether in bringing in manures, or carrying off produce, which no other County, I believe, can claim; and which, in a Country where wheel carriages are, in some cases, difficult to use, would be an advantage to the LANDED INTEREST, scarcely to be calculated.

The ROADS of the Vale are most remarkable for their closeness; narrow lanes, beset with mounds, and overhung with trees.

* See Page 39.

trees. This charge, however, does not lie, invariably. The more public Roads are, in general, well formed and well kept: the barrel gently convex, and the materials (mostly stone—some gravel), properly reduced.

The STATE OF INCLOSURE is the same, here, as in the other Districts of the County. The appropriated lands are universally inclosed: a few rough summits of hills, apparently commonable lands, remain open.

This State of Inclosure is probably of long standing; and, from the smallness of the fields, observable in many parts of the Vale; especially round Exeter and on the Eastern banks of the Estuary, it is reasonable to suppose that those parts, at least, were early inclosed. What serves to corroborate this idea, the mounds of the hedges are lower here, than in the Ham Districts; and are, in general, furnished with Timber Trees.

XI. The PRESENT PRODUCTIONS of the Lands of the Vale are chiefly ARABLE CROPS and HERBAGE; with a profusion

profusion of HEDGEWOODS; and some ORCHARD GROUNDS; but with very little WOODLAND, in the area of the Vale; not even in the more hilly parts of it.

Nevertheless, the District, I understand, does not supply itself fully with grain; at least, not with WHEAT; which is imported, occasionally; and chiefly, I believe, from the Isle of Wight. But the Country is populous. The Serge Manufactory employs many hands throughout the District, and finally concentrates at Exeter. Yet, of DAIRY PRODUCE, the Vale is enabled to send some supply to the Metropolis.

XII. Of the present STATE OF SOCIETY, in this District, I am prepared to say but little.

The TOWNS, in general, are populous, cheerful, respectably built, and finely situated. The situation of Tiverton is singularly fine.

The COUNTRY HABITATIONS are generally mean in their appearance, from the nature of the materials of which they are almost universally constructed; namely,
red

red earth and thatch. The neatness of the latter, however, is such as to render this species of covering more tolerable and less improvident, here, than it is in countries where straw is beaten to pieces with the flail, and laid on with less dexterity, than is the "reed" of the West of England. Earthen walls, rough cast, and covered with a reed roof, form a neat and comfortable habitation.

The EMPLOYMENTS of the Inhabitants are those of *Husbandry*, and the same branch of the *Woolen Manufacture* which prevails throughout the County: SISTER EMPLOYMENTS, which ought to prevail, more or less, in every District of the Island.

XIII. Of the FACE of this fair COUNTRY it were impossible to say too many fine things. But, as its goodly features might lose much of their force in my own description, I will briefly set it down at what its *happy* Inhabitants believe and assert it to be—"the richest finest Country in the world."

THE

THE
RURAL ECONOMY
OF
THIS DISTRICT.

MANAGEMENT OF ESTATES.

THE only particulars which struck me forcibly, relative to this subject, are

- I. Laying out Farm Lands.
- II. Farm Buildings.
- III. Hedgerows.

I. DISTRIBUTION OF FARM LANDS. There needs not better evidence of the first Laying out of Lands, in this District, being different from that of South Devonshire, than the smallness of Fields, and the intermixture of Farm Lands, observable in the Vale : at least in that part
of

of it which I had the best opportunity of examining; namely, the Eastern banks of the Estuary; which, in these particulars, might vie with East Norfolk.

Whether this intermixture of small fields has arisen from the lands being distributed, originally, among small hand-labor husbandmen, or from their having been once in a state of common arable fields, as in other parts of the Kingdom, and have been kept in that intermixed state, by the nature of life-lease-hold, is a point which, probably, might now be difficult to ascertain.

Where these lands still remain under life-lease-hold, it is difficult to do away the evil; but, where they are free from that tenure, the impropriety of suffering them to remain in so unprofitable a state, rests with the Proprietors and Managers of Estates.

II. Of the FARM BUILDINGS of the Vale, little is required to be said. They are, in general, without plan, and meanly built: earth and straw being the chief materials. Even the farm yard fences are

are of "cobb:" in some instances raised ten or more feet high, with folding doors, wide enough to admit laden pack horses; and with sheds, perhaps, on the inside: thus forming comfortable straw yards, at a moderate expence.

The favorite material of these walls appears to be the strong red loam mixed with gravel, which has been mentioned, and which acquires, in drying, a stonelike hardness. "If kept dry, it will stand for ever."

This material of building (earth of various sorts under the general name of cobb) has been used, here, time immemorial. Barns and dwelling houses, of almost every size, are built with it. The walls from fourteen inch to two feet thick; the flues of chimneys being carried up with the gables, as in building with stones or bricks.

III. HEDGEROWS. In this respect, too, the inclosures of the rich deep lands of the Vale resemble the wood-bound Pightles of East Norfolk.

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I,

The

The Elms of the Hedges have been already noticed. Oak Pollards, and, in some parts, Oak Timber Trees, stand thick on the Hedge banks, or grow out of their sides, or at their bases; with Coppice wood rising between them, as in Kent, and other Districts.

I mention this circumstance the rather, as it forms one of the few distinctions, which mark this Eastern District, from North and South Devonshire *.

WOODLANDS.

ON this subject, nothing of importance struck me, except what relates to the MANAGEMENT OF HEDGEWOODS.

The COPPICE wood is treated, as in West Devonshire; the Oak stubwood being peeled on the stem.

And

* It is in a manner needless to remark, that the GATEWAYS of Devonshire are adapted to Horse-and-Crooks, rather than to Wheel Carriages. Even where the latter are in partial use, seven or eight feet is the usual width. GATE POSTS, within the reach of Dartmore, are commonly of Moorstone.

And in the Management of HEDGEROW TIMBER, the only particular, which is noticeable, is that of lopping, not only Elms, but Oaks, to bare stems ! a practice which is not common to Hedgerows, only ; but which I have seen extended, in this District, for the first time, to Grove Timber ! Oak Woods !!

A practice so destructive of private property, and public benefit, can only have arisen in a scarcity of fuel, or in the rapine of tenants, and the neglect of those who should restrain them. Indeed, I would hope that the practice is not universal ; at least with respect to Wood Timber ; but is confined to the estate which I more particularly examined.

The practice of pruning off the side boughs of Hedgerow Elms is a venial crime ; provided it be not deferred too long from the last cutting. In the more valuable applications of the Elm, knottiness of texture is a desirable quality. But in most, or all, the uses to which the Oak is applied, a cleanness of grain is its best recommendation,

AGRICULTURE.

I. FARMS. From the size of Farmeries, and the appearance of FARMERS, this District resembles the rest of the County, in the SIZE of its Farms.

II. BEASTS OF LABOR. In this respect, too, the Vale of Exeter is truly Danmonian. OXEN are used in plowing; PACK HORSES in carriages of every kind; even to the gates, and within the streets of Exeter. I have seen, in its immediate environs, dung setting about with "horse and potts*." In this instance, three horses, with a man to fill and two boys to drive, formed the sett. The distance fifty to a hundred yards. The dispatch far from inconsiderable.

III. IMPLEMENTS.

* See Vol. I. P. 122.

III. IMPLEMENTS. Still we find ourselves within the limits of Danmonia. The PLOW, here, is more truly heraldic, even than in West Devonshire. The body longer, and the beam shorter : the end of the beam merely shooting before the point of the share !

IV. PLAN OF MANAGEMENT. In the ARABLE CROPS of the Vale, we find a deviation from those of the more Western Districts :—arising, no doubt, from an alteration in the quality of the soil. On the strong cold lands, in the area of the Vale, *Beans* are a common crop ; and, on the richer deeper soil, *Flax* is not unusually grown. And, perhaps, in this part of the County, a greater proportion of Cows are kept for the BUTTER DAIRY. But, in other respects, I have detected no obvious marks, in the outlines of Management, which distinguish this from the more Western Districts of Devonshire.

V. MANURE. The same roof shaped heaps of LIME COMPOST, that are common

in South Devonshire, are observable in the Vale of Exeter. The upper parts of the Vale are supplied with Lime, from the borders of Somersetshire : the central and Southern parts are supplied, by water, with stones, which are burnt at Exeter, and on the banks of the Estuary, after the manner of West Devonshire.

I have seen no traces of the SHEEP FOLD, in this or any other part of the County.

VI. WHEAT is here grown on narrow ridges, generally running diagonally across the slope, as in West Devonshire, &c.

VII. All the BEAN CROPS, that I observed, were raised in the random or broad cast manner.

VIII. TURNEPS. The HOING of Turneps is coming into practice, in the Vale. I observed, in different parts of it, clean good crops.

IX. GRASSLAND. On the Management of Grassland, nothing striking, or remarkable,

remarkable, occurred to me, in this District; except an instance or two of small parcels, which lie in a rough, unproductive state; apparently for want of being properly freed from superfluous moisture.

X. ORCHARDS. Many small Garden Orchards are scattered, in every part of the Vale. In the Environs of Tiverton, I observed some full sized Orchard Grounds. And the Villages round Exeter are en-wooded, with Apple Trees; which are still Danmonian: but, as the borders of Somersetshire are approached, the stems increase in length; as will be more particularly noticed, in the VALE OF TAUNTON.

XI. CATTLE. This, being a Dairy, rather than a Breeding District, a mixture of breeds may be expected. Nevertheless, in the more remote parts of the Vale, I have observed different instances of fine Cattle, of the pure North Devonshire sort.

In the neighbourhood of Exeter, many Alderney, or "French Cows" are seen;

and a mongrel sort, between that and the Devonshire breed, are not uncommon.

XII. The DAIRY. The produce of the Dairy, here, as in West Devonshire, is BUTTER and SKIM-MILK CHEESE.

This species of Farm Produce has increased, of late years; the butter, even of this extreme part of the Island, being now sent, in greater or less quantity, to the London Market.

Nevertheless, the CLOUTING OF CREAM, I understand, still remains the prevalent practice of the Vale; in which, however, some "RAW-CREAM DAIRIES" are already established: and, as the practice of raising cream, or suffering it to rise, in the natural way, has gained possession of the DAIRY DISTRICT (which will presently be described), on the Eastern banks of the Vale, there will be little risque in predicting, that it will require no great length of time, to extend itself over the area. How long it will afterwards take it, to climb over the Western banks, into South Devonshire, is much more difficult to foresee.

XIII. What

XIII. What SWINE I have observed, in the Vale, are of the same tall white sort, which appears to be common to the County.

XIV. SHEEP. The Sheep which are REARED in the Vale, are chiefly, I believe, of the HOUSE-LAMB BREED.

But the more ordinary stock of the smaller Farmers are bred on the Heights about Tiverton; and are the same variously headed race, which is common to all the high lands of Devonshire and Cornwall.

On the rich grazing lands, below Exeter, I have remarked a large polled breed; similar to that which has been noticed, about Totnefs. So commonly do Soils invite congenial Stock.

DISTRICT



DISTRICT THE SIXTH.

T H E

DAIRY DISTRICT

O F

WEST DORSETSHIRE,

&c. &c.

INTRODUCTORY REMARKS.

THE passage of country, to which I have given this appellative distinction, is at once NATURAL and AGRICULTURAL. Natural, as possessing a peculiarity, as well as a uniformity of style, in the formation of its surface ;—agricultural, as having the same leading object, in its plan of Rural Management.

Nevertheless, I was led to an examination of it, by circumstances more fortuitous, than those which attended the surveys of some
of

of the other Districts, noticed in these Volumes:

In my first journey, into the WEST OF ENGLAND, being struck with the appearance of the country, about Bridport, I stopt a few days to examine it; and went over it, some miles round, on either side: thus gaining a competent knowledge of the Eastern part of the District, and a general idea of its Rural practices. In passing, repeatedly, between Bridport and Honiton, I have had opportunities of seeing something of the Center of the District. And, in travelling between Crewkern and Chard, and afterwards taking a deliberate view of the Drake Estate, lying in the Valley of Yarcombe, I compassed the Northern margin, and saw much of its Western extremity: thus gaining a comprehensive idea of the whole District; except its South-Western quarter.

But, notwithstanding the information I had collected, respecting the passage of country here brought forward, I might, in forming this public Register, have passed it, as an intermediate District, had it not
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constituted a striking part of that extraordinary tract, of which these Volumes have hitherto been treating, and of which I am desirous to render my account as full as possible.

In attempting to give a comprehensive view of this Division of the West of England, I will briefly digest the particulars that struck me, in the cursory views which I have had of it; and first of the

DISTRICT.

I. SITUATION. Its boundaries are the lower flatter Vale lands of Dorsetshire, and Somersetshire, on the North *. The Vale of Exeter, on the West. The Chalk Hills

* The indeterminate boundary, on the Somersetshire side, may be caught from the following remarks, made between Crewkern and Chard.

CREWKERN TO CHARD.

Leave the Limestone lands, at Crewkern.

Ascend, by a sandy hollow way, a furze grown Common, with a gravelly subsoil,

Ascend

IV. SURFACE. By the formation of its surface, this District is most strongly marked; exhibiting the Danmonian style, in all its purity.

Immediately upon the coast, the hills are many of them rotund, and fertile to their summits; but, farther from the Sea, they are mostly flattened on the top, and comparatively infertile with the wide winding vallies, which seem to worm their way in among them; displaying the most broken and *troubled* surface. Still farther towards the Northern margin, especially towards the Western extreme, the ground breaks into more regular ridges and vallies; branching out, in the ordinary manner of mountain surfaces.

The wider Vallies, that have fallen under my notice, are the Valley or Bafon of Beaminster; the Valley, or, as it is called, the Vale, of Marshwood; the Valley of Yarcombe*, and that of Upottery: each of
them,

* THE VALLEY OF YARCOMBE. This Valley contains part of three Parishes, lying, I believe, in three Counties:

them, except the last, containing several hundred acres of valuable land.

V. CLIMATE. In the lower lands of this District, even in its more Northern vallies, the seasons are early. In 1791, Haymaking was at its height, in the neighbourhood of Bridport and Beaminster, the beginning of July; and, in 1794, Raygrafs was ready to shoot into head, in the Valley of Yarcombe, the first of May. I should conceive it to be, on a par of years, ten days or a fortnight before West Devonshire,

VI. WATERS. Each Branch Valley of the Northern margin has its rivulet or brook; which, collecting, form the upper branch of the Otter, the Axe, and the Brook or River of Bridport; the Axe receiving the principal part of the waters of the District.

VII. SOILS.

Counties: namely, Membury, in Dorsetshire; Whitchanton, in Somersetshire: and Yarcombe, in Devonshire; —the last comprizing the principal part of its lands.

VII. SOILS. These vary, in different parts of the District. In the Bridport quarter;—the lower lands are mostly of a superior quality—deep rich loams—throwing out full crops of Wheat, Beans, Flax; and Hemp; and; in this part of the District, the sides and even the summits of the swells and hillocks are many of them well soiled; the best a limestone loam; others of a lighter sandy nature.

But, in the Valley of Yarcombe, and apparently in the neighbouring Vallies, much of the soil is a strong red loam, lying on a cool basis,—Wheat, Beans, and Oak; land.

The soil of the higher hills, throughout this District, is a sandy loam, intermixed with a singular species of stone, a base kind of flint; a species of soil and accompaniment, which are common to the higher less fertile hills of East Devonshire, and are extended to the Halldown Heights, on the West side of the Vale of Exeter; and which, the flints at least, are peculiar perhaps to this part of the Island: I have not observed them in any other.

VIII. SUBSOILS. These are various, as the soils, the passage of country under notice resembling the Vale of Exeter, in this respect. The cool red soils have a strong clayey loam for their base ; the rich lands in the environs of Bridport, have either a lighter loam, or a sort of flinty gravel, beneath them : the hills are of sand, intermixed with flints, with here and there a mass of limestone.

IX. FOSSILS. The most useful Fossil production, that fell under my notice in this District, is LIMESTONE ; which is raised, not in the neighbourhood of Bridport only, but more or less in other parts of it. Beside being burnt into Lime, it is used as a walling material, as well as for paving Slabs, Drain Bridges, and Stiles ; large Slabs of it being not unfrequently set on edge for this purpose. It is also used as a road material. It appears as a mass of conglutinated shells ; resembling much, in general appearance, the Suffex marble : a species of Limestone dug out of the strong lands

lands of the Wild of Suffex ; whereas, this is found on the dry summits of hills.

On some of the Northern Heights, detached masses of CHALK are found ;—fragments, probably, of the neighbouring hills. White Down, between Chard and Crewkerne, appears to be chiefly composed of Chalk ; and is the most Western collection of that Fossil, which I have observed ; or which, probably, is found, in this Island.

X. ROADS. The Roads, in the more recluse Vallies, are nearly in a state of Nature : the antient Horse paths of the Forest state : crooked, narrow, numerous, and full of sloughs.

XI. STATE OF INCLOSURE. The lower grounds are wholly inclosed ; the hills, at present, are open ; but they show evident marks of their having been, heretofore, in a state of inclosure and cultivation ! discovering strong lines, which, on the wide Commons of Yarcombe and the neighbouring Parishes, still remain perfectly legible ;

gible; and which are not yet obliterated, on the higher more barren summits, in the neighbourhood of Bridport.

Tradition, in this Eastern District, as well as in the West of Devonshire, speaks of these open neglected lands, as having once been *inhabited*. But this ingenious Historian assigns different reasons, for their being abandoned to the neglect, in which we now find them. On the Western side of the County, we are told, it was owing to a decreased population. But, on the Eastern, to a widely differing circumstance. Here, the hills were *first* inhabited; by reason of the Vallies being, in the early stages of society in this Country, so full of Wolves, as to be rendered uninhabitable, by the Human Species. In process of time, however, the latter crept down the sides of the hills; clearing off the wood, as they descended; until at length the Wolves were driven away, or destroyed; the Vallies taken possession of; and the hills, in consequence, given up, for a more fertile soil, and a more genial climature.

This

This marvellous tale of tradition, whatever may have given rise to it*, seems altogether unnecessary, to explain the phenomenon under notice; as it may be accounted for in a more simple and reasonable way; there being nothing different, in the present appearances of these Commons, from those of the Commons of North Devonshire, that are actually, at this time, undergoing the very operations, which, in all human probability, moulded the faces of those of East Devonshire into their present form; and which, heretofore, left similar vestiges of inclosure and cultivation, on the surfaces of some of the commonable lands of West Devonshire†. The most striking difference between the appearances observable on the Commons of Yarcombe, and on those of Buckland, is, that the lines

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* TRADITION, when it reaches not farther than a few generations, is entitled to every respect, and is frequently good authority. On perilous events, as of war or pestilence, it is able to go much farther back, than it is respecting the ordinary and quiet operations of Agriculture.

† See Vol. I. P. 32.

on the former are much stronger ; some of the still mouldering hedge mounds having no appearance of being more than a century old ; some of them, perhaps, are of more modern date : indeed, incroachments, of a similar nature, are made at the present time.

There can be little doubt, I think, of the truth of the position, that it was once the prevailing practice of Devonshire, to CULTIVATE ITS COMMONABLE LANDS, in a manner similar to what we have seen practised, not only on public Commons, but in private Inclosures, at this time*.

It is reasonable to suppose, that, in early times, the *Asbes* of the sword or coarser covering, were depended on, as manure : and that, afterwards, *Lime* was used, as an additional stimulus. And it may be allowable to conjecture, that, through the means of these two powerful stimulants,—without returning any part of the produce, thus extracted, to the soil,—it at length became so much exhausted, as no longer to repay the expence of cultivation. What
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* See Vol. I. P. 149. Also Vol. II. P. 48.

corroborates this idea is, that the only part in which I have observed the practice continued, to the present day, is that in which Lime is most difficult to procure; and where it may not yet have been obtained in sufficient quantity, to lower the lands to the last stage of exhaustion.

Having proceeded thus far, I must mention, here (though somewhat out of place), a circumstance relating to the COMMON RIGHTS of East Devonshire: I speak more particularly of the Manor of Yarcombe; whose Commons belong exclusively to the Lord of the soil, and are stocked (without stint) by his own tenants, only. The "lands," as they are emphatically called, of other Freeholders, within the manor, have no right of Commonage! A custom of manors which may have eluded my researches in other parts of the County.

Should it be said, that this circumstance favors the story of the Wolves, for that these lands were private property of their respective Lords, and were thrown up for the use of their own tenants only, I will not gainsay it. I have, perhaps, already done

more than my duty ; and I leave it to the Antiquary, whose bent leads him to topographical enquiries, to determine the point.

Therefore, returning to what more immediately relates to the subject matter of this Register, I will finally observe, that, whatever may have been the circumstances which led to the inclosure of the Vallies under notice, they were made from the unreclaimed forest state ; without the intervention of common fields* or stinted pastures ; judging, I mean, from their present appearances ; which resemble those of the Inclosures of Kent, Herefordshire, and other Districts ; which have been, undoubtedly, inclosed from a state of unreclaimed woodland. The hedgerows are crooked, and furnished with timber ; and the banks raised, in *imitation* of those of Devonshire ; but are much lower than the

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* It is to be observed, however, that, to the East of Bridport, I saw some faint traces of common arable fields ; but in the area or the Western parts of the District, I observed no appearances of that sort.

altogether artificial mounds of the more Western part of the County.

XII. The PRESENT PRODUCTIONS of the Soils of this District are WOOD (chiefly of Hedgerows, --- not much detached Woodland), --- ARABLE CROPS, FRUIT TREES, and GRASS;—the last being the most prevalent produce of the inclosed lands. The Hills are overgrown with DWARF FURZE, HEATH, and COARSE HERBAGE; a few of the more barren parts of them being occupied chiefly by heath.

XIII. The TOWNS of this District are BRIDPORT on the East, AXMINSTER near the center, HONITON on the West, CREWKERNE and CHARD on the North, with different Sea Ports on the South.

XIV. VILLAGES. In this particular, the District under view is strictly Danmonian: the Villages, that have fallen under my eye, are inconsiderable; the farm house, and cottages being happily scattered over the areas of the Townships: a circumstance

cumstance more or less observable, perhaps, in every part of the kingdom, where inclosures have been made from a state of Woodland, or of Pasturage : close arrangements of houses, in the form of Villages, being most observable, in Common-Field Districts *.

XV. HABITATIONS. The BUILDING MATERIALS, here, are various, Stones of different sorts are in use ; but earthen walls are, nevertheless, prevalent ; and, on the whole, the habitations of this Eastern District are much inferior to those of West Devonshire ; which far excels the rest of the County, in this particular.

XVI. The PRESENT APPEARANCE of the Face of this Country may be conceived,

* The LAYING OUT OF TOWNSHIPS, and their PRESENT STATE OF INCLOSURE, are subjects so very interesting to a mind employed in Agricultural Researches, that no apology can be wanting for the Remarks that are interspersed in these Volumes, respecting them ; as no other Department of the Island furnishes so many striking facts, relating to these subjects, as the WEST OF ENGLAND.

ceived, from what has been said, respecting its Surface, its Productions, its State of Inclosure, and the Distribution and Style of its Habitations.

Viewed from some elevated points, where the barren or infertile summits of the hills only are seen, it has all the appearance of a Mountain District.

But, in travelling through it, and still more in penetrating its recluser parts, the most striking transitions are produced, and compositions the most picturable are caught. It is observable, however, that the prevailing characteristic of the views of this passage of Country is Beauty, rather than picturesque Effect; differing much, in this respect, from the wilder scenery of the West of Devonshire.

In Circles of Views, this passage of Country abounds. The Summit of the Knoll, the Brink of the Sea Cliff, on the West side of the Harbor of Bridport, is an interesting point; commanding Land and Sea Views of the first cast. On Beaminster Down, one of the broadest and richest circles of scenery, this Island affords, is
seen

seen with every advantage. In variety, extent, and richness, considered jointly, I know nothing that equals it. To the East, the soft billowy surface of the Chalk Hills of Dorsetshire, even to their farther extreme. To the West, the more rugged mountain summits of Devonshire, with Dartmore (I believe) rising in the farthest distance. To the North, the rich Vales of Somersetshire, backed by the Quantock and Mendip Hills, with a portion of the Bristol Channel breaking in between them. To the South, the singularly broken and beautiful surface, in the Environs of Bridport; the varied summits of the hills giving feature and additional effect to the Bay of Bridport; spreading its ample surface immediately under the eye; its Western Coast being finely broken and varied, by ragged promontories, and bold cliffs; and its Eastern terminated, by the Isle of Portland; with mackrel skiffs playing on the surface of the Bay, and with vessels of burden plowing their way across it.

THE

THE
AGRICULTURE
OF
THIS DISTRICT.

THE leading Object, in viewing it, especially its Western quarter, being that of catching OBVIOUS IMPROVEMENTS, in the MANAGEMENT OF AN ESTATE, rather than to register the minutiae of its AGRICULTURE, I am the less prepared to enter into a detail of its practices. I shall therefore confine my remarks to a few general heads.

I. FARMS. The distinguishing character of Farms, in the interior of the District, is Grassland. There are many which have very little, if any, arable land; being strictly DAIRY FARMS.

In

In SIZE, the Farms of this Eastern District are conformable to those of the rest of the County; being mostly of the lower class. But, here, it is not uncommon for one man to hold two or three distinct Farms: stocking them with cows, and letting them out to dairymen: a practice however which admits not of commendation; and which will be renounced.

II. FARMERS. Even in the most reclusive part of the District, I met with some intelligent men. And although the rust of prejudice may not yet be sufficiently worn away, the late memorable change, in the management of the dairy, shows demonstrably, that the spirit of improvement is awake, and augurs much for the benefit of the Country.

III. BEASTS OF LABOR. In the interior of the District, OXEN are in use; but, in the Eastern quarter CART HORSES prevail.

IV. IMPLEMENTS.

IV. IMPLEMENTS. The only thing that struck me, as excellent or peculiar, in the construction of the Farming Utensils of this District, relates to the YOKE ; whose draft iron, or staple, is inserted, not perpendicularly, as it usually is ; but diagonally ; entering the lower angle of the hind part of the Yoke, shooting upward and forward to the opposite angle ; where it is keyed, in the usual manner. This prevents the bend of the bow from bearing too hard against the throat of the Ox, and is theoretically good. How it operates, in other respects, in practice, I had not an opportunity of observing.

V. PLAN OF MANAGEMENT. In the general outline of practice, observable in the more Western parts of this District, we find little which specifically differs from that of the County at large. The OBJECTS are nearly the same, and the means used in obtaining them similar. The difference lies chiefly with the proportional quantity of each species of produce. In East, as in West Devonshire, the objects are permanent
grafs,

grafs, arable crops, and temporary leys: part of the grafs, in both Districts, being applied to dairy cows, for butter and skim cheese. But the proportion of Grafsland, and the proportional number of cows, is much greater here, than in the Western parts of the County. Of the lower grounds of the Valley of Yarcombe, four fifths, perhaps, are in a state of grafs, permanent or temporary; and this is chiefly depastured by cows; the number of working cattle being few, and the sheep and young cattle chiefly confined to the hills, and upper grounds.

The ARABLE CROPS of the interior of the District are chiefly *Wheat*, and *Oats*; no *Beans*! and but little *Barley*.

The SUCCESSION is similar to that of West Devonshire: ley ground, partially fallowed for wheat, with one or two crops of oats; grafs seeds being sown with the last crop. Some take oats, wheat, oats; agreeably to the practice of the Midland District; whose soil and subsoil are very similar.

In the more Eastern parts of the District, there are shades of difference observable in the Plan of Management: which, probably, partakes more or less of that of the Vales of Dorsetshire, and the rich low lands of Somersetshire, from which this part of the District, now under view, is separated by a narrow ridge of hill, only.

But what marks the Rural Management of the Environs of Bridport most evidently, is the culture of *hemp* and *flax*,—to supply the consumption of a MANUFACTORY of SAIL CLOTH and CORDAGE (from the cable of a man of war, to the finest packing thread), which has long been carried on, there: giving employment to the female villagers of the neighbourhood; and, of course, operating as a mutual benefit to Agriculture and Commerce. A mutual good, however, which can only subsist, in a rich-soiled District.

VI. MANURES. LIME is more or less in use, throughout the District: being burnt, from stone found within it, with Welch culm; at least in the Bridport quarter.

VOL. II.

L * Formerly,

Formerly, much "MARL" has been used, in the valley of Yarcombe; which exhibits "marl pits" of considerable capacity, and old enough to have produced Oaks of considerable size; perfectly resembling the "marl pits," and the "marl" of the Midland Counties: namely, a red clayey loam, without the least proportion of calcareous matter in its composition! and, what is noticeable, the marl of this District, as that of the Midland Counties, is now giving way to lime: the change, if one may judge from general appearances, having taken place about the same period of time!

In the Bridport quarter, I observed the SHEEPFOLD, in more than one instance; agreeably to the Dorsetshire practice.

VII. GRASSLAND. Notwithstanding this may be considered as the main object of the District under view, I observed nothing praiseworthy in its Management. In the Valley of Yarcombe, where the soil is tenacious, and the subsoil retentive, the Grasslands, whether permanent or temporary, are injured by superfluous moisture:

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an injury which is not so much owing to a want of draining, subterraneously, as from their lying too flat, to shoot off, with proper effect, the superficial waters. The natural consequence is, much of the surface is over-run with aquatic weeds and the coarser grasses, when it ought to be occupied by nutritious and more profitable herbage.

It is to be observed, that the Spring WATERS of this District are of an ameliorative quality, and that they are here, as in West Devonshire, partially, and inaccurately, led over the Grasslands.

VIII. ORCHARDS are common, in every part of the District. I bring them forward, here, merely to say of them, what may be readily conceived, that, with respect to the stature of the trees, and the order in which they are arranged, they form a mean between the Orchards of Devonshire and those of Somersetshire. The stems are, here, somewhat taller, than in West Devonshire, but are considerably short of the English standard. And, in the closeness

of arrangement, they still more resemble the Devonshire Orchard. I speak more particularly of those of the Valley of Yarcomb*.

IX. THE DAIRY. This has been, time immemorial, a Dairy District. Formerly, its produce was CHEESE, made from the neat milk; probably of the Somersetshire kind, sold under the name of Bridgewater Cheese; some of which I have met with of a very superior quality. The Valley of Yarcombe was noted for its produce, which was known in the Vale of Exeter, by the name of Membury Cheese. Indeed, its soil and herbage are such, as never fail to produce fine Cheese, if properly manufactured. It is naturally a Cheese District.

Nevertheless, of late years, its produce has been changed to BUTTER, for the
London

* In approaching these Hills, from the Eastward, the Orchards of Chard were the first that struck me, as partaking of the Devonshire Orchard. The stems shorter than those of Dorsetshire and Somersetshire; but tall enough for young Cattle to pasture beneath the Trees.

London market ; to which it is sent in tubs, as from the North of England : a change which has been brought about, by the powerful influence of the London prices, compared with those of the Country.

The SIZES OF DAIRIES, judging from what fell under my own observation, rise to thirty or forty Cows. I saw one of near forty.

The BREED OF COWS, employed in these Dairies, is that of the WEST OF ENGLAND ; namely, the well formed, clean, middle-horned breed, which is common to the Counties of Somerset, Devon, and Cornwall. In the neighbourhood of Bridport, I saw a tolerably good Dairy of Cows, of a mixed breed ; apparently a cross between the middle and the long horned breeds.

Formerly, the Cows used in these Dairies were chiefly REARED, in the Country ; but, of late years, Butter has borne so profitable a price, as to induce the Farmers to forego the rearing, and to PURCHASE their Cows : a practice which, if it should continue, will soon introduce a mixture of stock.

Of the DAIRY MANAGEMENT, of the District under view, I can say little: I collected nothing on the minutia of practice worth registering. Its present practice can scarcely be said to be, as yet, *established*. It was not, therefore, an object; even had I had leisure to attend to it. To register the minutiae of the Dairy Management, so as to render the detail intelligible and useful, is a tedious and irksome task; and requires, not only time, but a species of opportunity, which did not occur to me, in this District.

Many of these Dairies are LET TO DAIRY-MEN, at a certain rent for each Cow; the Farmer keeping up the stock, and supplying them with pasturage and winter food; and finding a dwelling as well as a dairy house, for the renter. It is common for opulent men to hold a plurality of farms, and to let them out to under tenants, in this way: a practice which is injurious to an estate; as tending to let down the buildings and the fences of farms, thus occupied by under tenants; who have not so permanent an interest, in keeping them up, as a lessee, or first tenant, who makes the place his residence,

residence, and expects to occupy the premises for a length of time ; and who is himself liable for dilapidations.

X. SHEEP. I observed, in the Bridport quarter, some fine flocks of DORSETSHIRE EWES : kept as breeding flocks ; similar to those of the Vale of Exeter, and West Devonshire, which have been already spoken of. The Sheep of the higher hills are of the same mountain sort, which occupy the other hills of Devonshire and Cornwall.

SOME
H I N T S
FOR THE
IMPROVEMENT
OF
THIS DISTRICT.

IT has been mentioned, that my chief intention, in going over it, especially its Northwestern quarter, was that of endeavoring to point out the probable means of its Improvement. And although my examinations, and the result of them, were mostly of a private nature; some of the Remarks, they gave rise to, may, nevertheless, bear the public eye, and may be more or less useful, to those who have property in the District, and who are desirous to improve its condition. Nor may the suggestions, here thrown out, be altogether inapplicable to other Districts.

The

The few subjects of Improvement which I can bring forward, here, with propriety, are,

I. The HILLS, or COMMONABLE LANDS, Something has been already said respecting the PRESENT STATE of these lands; so far as relates to their soil, and the marks of cultivation which appear on their surfaces.

The SOILS, however, are various in quality. Some of these hills are covered with a loamy soil, of sufficient depth and texture to admit of profitable cultivation *; while others are nearly destitute of mold. The latter, very fortunately, is by far the smaller proportion.

The PRESENT PRODUCE has been mentioned, as being furze, heath, and the coarser grasses: interspersed, however, with patches of sward.

The

* At the head of the Valley of Yarrowcombe, cultivation and permanent Inclosures climb up the side—there a gentle slope hanging to the North—and spread over the top of the hill. And some of the soil of the Common appears to be of a quality, similar to that of the cultivated Inclosures.

The PRESENT STOCK is an inferior kind of Sheep; and young Cattle.

The MEANS OF IMPROVEMENT appear, to me, to be those which I have suggested, above, for the improvement of DART-MORE*.

The first step is to separate the culturable from the unculturable lands;—to cut off the steep ragged brows of the hills, for PLANTING. And the next, to inclose the flatted tops of the hills, for CULTIVATION; or for open SHEEP WALK, or RABBIT WARREN; agreeably to the soil and surface, and conformably with the Proposals already offered†.

II. HEDGEROWS. Among the various Improvements of which the LOWER GROUNDS, VALLEY LANDS, or “BOTTOMS,” as they are called, are capable, none strikes the eye more forcibly, than that of its HEDGEROW TIMBER; which is, at present, in a state of neglect. The same unpardonable practice of lopping Oak Timber

* See P. 29.

† See as above.

Timber Trees, so shamefully prevalent in the Vale of Exeter, is extended, in some degree at least, to this District. The soil of these Valley lands is peculiarly suitable for the growth of Oak Timber; and, on the broad hedge banks, which intersect them, Ship Timber of the first quality might be raised, in great abundance, with little injury to the Occupiers of the lands, compared with the advantages which would therefrom accrue to the Proprietors and the Public. Yet we see these valuable nurseries, in many parts destitute, or very deficient, with respect to this inestimable article of produce: owing, principally or wholly, to neglect, or a want of skill, in the Management of Estates. The COPPICE wood of these Hedgerows being reaped by the Tenants, they have an interest in destroying, and preventing the growth, of TIMBER TREES: a circumstance which calls for double diligence, on the part of those who have the superintendence of Estates. There is, evidently, sufficient room, in the wide Hedgerows of these lands, to grow an abundance of fuel, for the

the Tenants, and a valuable supply of Timber, for the Landlord, and the Public.

The means of Improvement are evident. Take down the trees, that are irrecoverably maimed, or which are stunted, or fully grown, and *number* those, which are proper to be left standing. Train up the young stands, or timberlings, so as to give them length of stem ; not more to improve them as Timber Trees, than to prevent their doing unnecessary injury to the crops on either side, and to the Coppice wood, which shall hereafter rise beneath them. And set out, in vacant spaces, at every fall of Coppice wood, such promising shoots, as seldom fail to rise among Coppice wood, growing on a soil so favorable to the Oak, as that of the Valley Lands which are now under consideration,

The last is a business which requires particular circumspection. It cannot, for obvious reasons, be left to a Tenant or his workmen, with safety ; at least not to Tenants in general. The only way, in which it can be done with a certainty of success, is to send round an experienced
and

and faithful Woodman, previously to the cutting season, to set out, and distinguish with paint, or other conspicuous and permanent mark, the plants which are proper to be left for standards.

In this District,—where the ordinary Woods are usually cut out, in winter, leaving the Oak standing, until the barking season, agreeably to the Danmonian practice,—there would seem to be a favorable time for marking the standards, between these operations. But when it is considered, that the seedling plants, which ought always to be chosen where a choice offers itself, are frequently of inferior size to the sapling shoots from the stubs, and generally too inconsiderable to be left for peeling, such interval of time is too late. We may, therefore, without hesitation or hazard, give it in opinion, that every OAKLAND ESTATE, having wide woody Hedgerows, should have an established regulation, requiring its tenants to give due notice of their intentions, previously to the cutting of their Hedgewoods; in order that the proper plants, they contain, may be marked
for

for standards; they being allowed a full compensation for the wood thus marked, as well as for the attention and care which may be requisite, in preserving them from injury: giving due encouragement to the tenants, who encourage the growth of Timber upon their respective farms;—and treating with neglect, those who are negligent of its preservation.

For Remarks on Training Hedgerow Timber, and its Effects on Arable Crops, see PLANTING and RURAL ORNAMENT, Vol. I. Pages 56 and 96.

III. PLAN OF FARM MANAGEMENT. Some alteration, in the arable department of Management, seems to be wanted. The temporary leys are mostly foul, weak, and thin of herbage; owing, doubtless, to the practice of taking two or three grain crops, in succession, and laying the land down in a state of exhaustion, as well as foul, and out of tilth. Perhaps taking a crop of beans, in rows well cleaned, between the wheat and the oat crop, might be found doubly beneficial; as introducing
a species

a species of produce, new to the soil ; and serving to prepare it for the reception of the grass seeds, by a fallow crop. In cases where the soil is very foul, a whole year's fallow is, of course, requisite.

IV. In the MANAGEMENT of the SOIL, two or three Improvements are obvious. Much UNDERDRAINING is wanted ; not only in the meadows or lower lands ; but on the rising grounds and hangs of the hills. Stones are plentiful ; and sod drains might be found to answer on the stronger lands.

Another Improvement, which presents itself, in the Management of the Soil, relates to the method of LAYING IT DOWN TO GRASS.

In West Devonshire, where the subsoil is absorbent, and the soil friable and firm, it is perfectly right to lay it down, as flat and smooth, as possible. But, here, where the soil is tenacious, and the subsoil retentive, and much of it kept in continual furchage, by the waters pent up beneath it, the practice is in a degree absurd. Nevertheless,
the

the practice of these two distant Districts, with respect to the depositing, or forming the surface of their soils, with the plow, to receive the given crops, is precisely the same. For wheat, the soil is gathered up into narrow ridges; and is laid flat, for every other crop.

The Improvement which strikes me, as proper to be proposed for this District, is that of keeping the land in ridges, of half a statute rod in width, for every crop; or of preserving the present narrower ridges for wheat, and throwing two of them together, for beans, oats, and ley herbage: being ever mindful to form the surfaces of the ridges gently convex, to shoot off the superfluous rain water which falls on them; with deep narrow interfurrows, to receive the water; and with cross trenches, to convey it away, to the neighbouring ditches and common shores: a principle of Management, which is applicable to all cool retentive soils, in the Island.

V. MANURES. In a remote situation, like that which is now more particularly under

under notice, every experiment and expedient should be used, to meliorate the condition of its lands, and to make up for the loss, they annually sustain, by the produce carried off, without any foreign supply or return for such exhaustion. Lime appears to be the only extraneous, or factitious Manure, at present in use: a Manure whose operation is generally weak, on cool, cohesive lands.

IN THE RURAL ECONOMY OF YORKSHIRE, I ventured to suggest, as a probable means of meliorating strong cohesive soils, the burning of their surfaces;—not more for the ashes, as a Manure, than for the cinders, or BURNT CLAY, which such a process necessarily produces, as a means of improving the contexture of such cohesive soils*. And I have lately been informed, that the burning of the clay of drains, and spreading it over the strong cohesive lands of Somersetshire, is now practised, with great advantage. These simple and cheap operations are, at least, subjects of experiment, in every District, whose lands are of a close retentive nature.

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The

* See YORK. ECON. Vol. I. Page 313.

The lands, now immediately under consideration, have another probable means of Improvement within their reach; and which can rarely be commanded, by lands of a similar nature. I mean the BLACK MOORY EARTH of the heaths, which inclose and overlook them. There is doubtless much earth of this kind, which lies at present useless on the hills, and which cannot, there, be turned to so useful a purpose, as, in much probability, it may, in the Vallies: applying it, either in a simply digested state;—or in compost with lime; or in the state of coal, or of ashes;—as a short course of experiments, attentively conducted, could not fail to determine.

DIS-

DISTRICT THE SEVENTH.

THE
VALE OF TAUNTON,
AND ITS
ENVIRONS;
TOGETHER WITH
CURSORY REMARKS
IN A JOURNEY THROUGH
SOMERSETSHIRE.

IN September 1791, on my way from West Devonshire to Suffex, I stopt some days at TAUNTON; to look round its fine Environs; and to get a general view of the Natural Characters, and some insight into the Rural Management, of this celebrated Passage of Country. I, then, not only

examined the Area of the VALE, on either side, but ascended the QUANTOC and the BLACKDOWN HILLS, which over look it; and went into one of the SEDGEMORES, which mark Somersetshire so discriminately, from the rest of the Island.

I have, since, had repeated occasions to travel through the Vale: and, in the autumn of 1794, on leaving Devonshire, I renewed my attention; continuing my Remarks THROUGH THE COUNTY, in the line between Tiverton and the Devizes.

In making out this sketch, I find it most convenient to myself, and I believe it will be found most advantageous to the Reader, as being most perspicuous, to keep these Passages distinct: treating of the Vale, as the main subject; and joining the rest, as appendices.

THE

T H E

VALE OF TAUNTON.

THE SITUATION of this fertile Vale or District, is in the Western Quarter of Somersetshire. Its NATURAL BOUNDARIES are, on the North, the Quantock Hills, which separate it from the Vale of Bridgewater: on the South, the Blackdown Hills, which sever it, in a similar manner, from the Vale of Exeter:—and, on the West, the Skirts of Exmore and the broken hilly District of the Coast. On the East, it is less accurately defined;—the rising grounds of Curry, and the extensive marsh of South Sedgemore, may be considered as its natural boundary.

Its EXTENT is small. It is barely entitled to the distinction which is here given it, and which it not uncommonly bears; though, in natural characters, its

M 3 dimensions

dimensions apart, it is, in the strict sense, a *Vale District*. One hundred square miles, I apprehend, would contain the whole of its more valuable lands.

The ELEVATION of its Area, above the sea's surface, is, even at present, inconsiderable; yet is sufficient to keep it dry and healthy. Nor does any part of it, except its lower extreme, appear to have ever been liable to the tide, or collected floods: it contains none of such level marshes, or "moors," as are scattered in the central and Southern parts of Somersetshire.

In SURFACE, as has been intimated, this District takes the Vale character. Its area is diversified with rising grounds, and interspersed with low meadowy lands. The banks, on either side, rise to a great height. On the South side, the foot of Blackdown shelves smoothly, though somewhat steeply, into the Vale; but, on the North, the Quantoc Hills rise abruptly, and with a more broken and strongly featured front. From Cotherston Lodge, which crowns a prominent knoll, that juts out from these hills, the entire surface of
the

the Vale is commanded. It is closed, to the West, by a crowd of hillocks,—in tumult wild assembled: a genuine passage of that singular species of surface, which is common to the Western extreme of the Island; and which may be said to terminate, or rather to commence; here.

The CLIMATURE of this Vale might be prejudged, from its situation. The bases of high extended hills are generally cool; and backward, with respect to seasons:—especially if they face the North; and still more especially, if the substrata are of a cohesive retentive nature; as are those of the South side of the Vale of Taunton. In the second week of September 1791, much barley was still unharvested, and some uncut.

The SOILS of this, as of many other contracted Vale Districts, vary in quality, with the hills which form them. Much of the North side of the Vale of Taunton is a deep rich sand—a carrot soil: while the opposite side is chiefly the same strong red loam, which we have found in the Valley of Yarcombe, and in the Vale of Exeter;

and also, in small plots, in the South Hams, and in North Devonshire.

The SUBSOILS are still more various. In the area of the Vale, a Gravel is seen: under the rich red sands of Bishop's Lydiard, a concrete substance of the same color, and of various degrees of hardness, prevails. This concretion, in some places, takes the nature of rock; which, on being exposed to the air, acquires a great degree of hardness, and is used as a building material. Under the strong red soils, of the opposite side of the Vale, a deep loam, of a similar nature, is found: and, under this, substrata of white sandy substance, hardening in some instances into a kind of stone, is seen interlayered with red loam; an accompaniment, perhaps, which is common to all the strong red lands of the Island.

The RIVER of the Vale is the TONE, or TAUN,—which is rendered NAVIGABLE to Taunton. The freightage is chiefly, Welch COALS, for fuel, and CULM, for burning Lime.

The chief PRODUCTION of this fertile District is, at present, CORN. There
is

is very little GRASS observable ; unless near the Towns ; and by the sides of the Tone, and its branches. And, even from the commanding point of Cotherston, not more than two or three small plots of WOODLAND are seen, in the area of the Vale. The HEDGEROWS, however, are full of wood ; and, when viewed from the opposite banks, a greater degree of woodiness appears.

The whole is in a STATE OF INCLOSURE ; with FIELDS of various form and size.

FENCES. In the Vale of Taunton, we trace, by broken steps, the decline and termination of the DANMONIAN FENCE.

In the more Western and central parts of the area of the Vale, the prevailing Fence resembles that of the Valley of Yarcombe, and the lower grounds of the Vale of Exeter : namely, a low broad bank, loaded with coppice wood, and hedgerow timber trees : the former mostly Oak ; the latter Elms, shorn of their boughs, as in the ordinary practice of the kingdom.

But, in passing down the Vale, the HAW-
THORN

THORN HEDGE begins, by degrees, to mix with the coppice mounds, and, before the Eastern extremity is reached, becomes the prevailing Fence.

In the MANAGEMENT OF FARMS, the Vale of Taunton differs; in some respects; from the DANMONIAN HUSBANDRY; especially in the outline or PLAN OF MANAGEMENT. It is properly an ARABLE DISTRICT: the TEMPORARY LEY, which is common to Devonshire, scarcely appears to extend into this Vale. In the second week of September, half the District, as seen from the hills, was PLOWED GROUND, or TURNEPS! the rest appeared to be PERMANENT GRASS, with the CORN, then unharvested, and STUBBLES unbroken up.

Nevertheless, in MINUTIAL PRACTICES, particularly in the management of Lime, the burning of Beat, and the sowing of Wheat, the Vale pursues the Devonshire method.

The CROPS are *Wheat, Barley, Oats,* and *Beans*, the last more especially, on the stronger lands of the South side of the Vale.

ORCHARDS.

ORCHARDS. The height of Orchard trees, as of Hedges, undergoes a change in this District. In travelling, between Exeter and Taunton, the stem of the Apple tree is seen to lengthen towards Somersetshire; but not in uniform progression: And, in passing from Tiverton, into the Vale, similar appearances are seen. The first full-stemmed *English* Orchard was observed, in the neighbourhood of Wel-
lington.

But as this and other particulars, relating to the remarkable transition,—observable in Rural Practices, on leaving the Western Peninsula, or extreme part of the Island,—will appear in the following JOURNAL, it is unnecessary to enter farther, in this place, on the particular management of the Vale of Taunton.

THE
QUANTOC HILLS.

THESE form a narrow range of Mountain Heights, which rise near the junction of the Parret and the Tone, below Taunton, and lead, in a Northwest direction, towards the Coast of the Irish sea, or Bristol Channel; dividing the low fertile lands of the Vale of Taunton, from those of the Vale of Bridgewater.

Their ELEVATION, with respect to the adjoining lands, is considerable; though their positive height, above the tide, is not great. They are, however, too high, and too mountainlike, in their general aspect, to be merely deemed upland; yet not of sufficient importance to be styled mountain.

The SURFACE of these hills, or rather chain of hills, is greatly diversified. They resemble, in surface, soil, and present produce, the hills of East Devonshire; and, like those, have been heretofore cultivated (in whole or in part): the vallies or breaks,
between

between them, being now in a state of cultivation.

The SOIL of the extended summit, to the East of Cotherston Lodge, appears to be of a nature that would pay for cultivation; being now chiefly covered with grass and the upland sedges. But, to the Westward, the soil appears to be more barren, and much of the produce heath.

There being evident traces of Limestone on these hills, their IMPROVEMENT, in much probability, might be rendered very profitable, to individuals.

The insulate situation of these Hills renders them highly interesting, to those who admire the ample scenery of Nature. The Mendip Hills, and the principal part of Somersetshire which lies to the South of them; the Hills of Wiltshire and Dorsetshire; Beaminster Down, with the other prominent Hills of East Devonshire, terminating with Black Down; distant Hills, in Devonshire; Exmore, and the Hillocks of the Coast; with the Bristol Channel and its Holms, backed by the Welch Mountains; spread out wide to the view.

THE

THE

BLACK-DOWN HILLS.

IT has been said, that these Hills form the Southern bank of the Vale of Taunton, and separate it from the Vale of Exeter ; and, in like manner, they divide the Counties of Somerset and Devon. They are a continuation of the Axminster Hills ; forming their Northwestern extremity.

IN ELEVATION, they exceed everything in their neighbourhood ; equally overtopping the Quantock and the Axminster Hills.

In surface, they resemble the rest of the mountain heights of this extreme of the Island ; namely flat, or swelling ; divided by wide open Dells, or shallower Dips ; and partially severed, by deep rich Vallies or " Troughs"—as they are called—of cultivated lands. The extreme point, to the West, forms a bold Promontory ; wearing,
on

on its Northwestern brow, a mountain appearance.

The SOIL of the summit is of an inferior quality ; of a black moory nature : and strewed with the same base kind of *Flints*, that are observable on the other hills of East Devonshire ; and this without any traces of *Chalk* : an unusual circumstance, worthy of the Naturalist's attention.

The STOCK of these mountain heights are young cattle of the West of England breed, and most of them neat : with the same aukward, half-horned breed of Sheep, that are common to all the wild lands of this extremity of the Island.

On the Northern hang,—about the midway,—of these hills, are quarries of LIME-STONE, found in a singular state.

The quality of the Stone is evidently that of the Claystone of Gloucestershire, of Leicestershire, and of the Vale of Belvoir ; but instead of being deposited in regular strata, it is found in detached fragments, bedded, promiscuously, in pale-colored earth ; similar to that with which it is interlayered, in the instances above mentioned ;

tioned ;—as if the strata of Stone had been broken to pieces, while the earthy matter was in a plastic state, and the mass had been blended, by some violent agitation.

The color of the Stone is blue, internally, and white, towards the surface ; and burns to a somewhat sulphur-colored Lime ; resembling that of Barrow, in Leicestershire *.

FURTHER REMARKS ON THE LIMESTONE OF WEST SOMERSETSHIRE.

I afterwards examined the Limeworks and quarries of the Hills, which bound the Vale of Taunton to the East, and which are entirely detached from the Blackdown and Axminster Hills.

Here, the same Stone is found, in regular unbroken strata ; as they appear in the quarries of Gloucestershire, Leicestershire, &c. but with a very striking difference respecting their situation. In the places abovementioned, they are lodged beneath the surface of low flat Vale lands ; whereas, in

* See MID. ECON. Vol. I. P. 28.

in the instance under notice, they break out of the face of a lofty and steep hill.

Nevertheless, such is the impervious and retentive quality of these strata, that the land which lies over them, even in this elevated situation, and close upon the brink of a precipice, which probably has heretofore been the waterworn cliff of an estuary or arm of the sea, is cold and ungenial, as that which covers their watery bed, in the low grounds of the Vale of Gloucester. The surface, in many places, is occupied by Coltsfoot. A field, close upon the brink of the cliff which overlooks the marsh, or Sedgemore, that will presently be noticed, was under fallow for Wheat, at the time I was upon these Hills (in Sept. 1791); and, from the *completion* of the soil, it appeared to be barely worth the labor of cultivation.

How much more depends on the quality of the substratum, than on that of the soil itself: the very soil, here under notice, if incumbent on an absorbent subsoil, would be worth three or four times its present value.

SOUTH SEDGEMORE.

FROM the eminence just mentioned, I had a favorable opportunity of gaining a general view of this rich Level of marshlands. And, by riding a few miles within its area, passing through its herds and flocks, and conversing with those who were attending to them,—I had a similar opportunity of obtaining the particulars of information, which a cursory view required.

The natural boundaries of these marshes are the Limestone Heights, abovementioned, on the South and South-East; on the West, the broken base of the Eastern extremity of the Quantoc Hills, and the narrowed *mouth* of the Vale of Taunton. On the North, the Parret and the Tone are considered as the boundary of the “Moor” immediately under consideration; their junction forming the extreme point to the North. But lands of a similar nature

nature are seen to stretch away beyond that point, to the North-West.

In the view from the hills, there appears to be an EXTENT of these lands ten or twelve miles in length, and some miles in width, under the eye. But the outline is extremely irregular.

The ELEVATION of these lands (the part I examined at least) is such as to secure them, at present, from the tide; nor did I learn that land floods incommode them, in any considerable degree.

Their SURFACE is level as that of the water, which, with moral certainty, once occupied the space they now fill. If we calculate on the rapid increase of earthy matter, at the mouths of rivers, whose waters are collected from rich arable lands;—and on the decreasing depth of the Sea; which, though perhaps not equal to what some modern Writers conjecture, has probably been considerable, during the last millennium of time;—it is reasonable to suppose, that since the first settlement of this Island, the Sea rolled its rapid tides within

the area now under contemplation: and the rapidity of the tides, in the estuary of the Parret, as of the Severn, accounts more fully for the rapid increase of land; occasioned by the silt forced up, by the "Boar" or Eagle, which is common to the rivers of the Severn Sea*.

The present name of the marshes of Somersetshire, is a sufficient evidence, to prove, that, at the time it was assigned them, the reclaim was not completed: that they were, at the time it was applied, in

* This striking natural effect, I have repeatedly observed, on the banks of the Severn, near Gloucester; where, at certain times of the tide, and most especially during a strong Westerly wind, a body of water, some few feet in depth, rushes impetuously up the Channel of the river; gliding, as it were, upon the descending waters; rushing out at the more abrupt bends, and dashing its spray to a very great height, on every obstruction; attended by sounds, which may sometimes be heard to a considerable distance.

This effect is probably caused, by the form and situation of the Bristol Channel; which receives the tide, from the Atlantic, by a wide opening, and contracts towards the mouths of the rivers that are thus affected.

The narrowing estuary of the Humber, produces a similar effect.

in a state of *Fen*; not in that of firm, dry *Marshlands*, as we now find them.

The SOIL of this marsh is a red loam, of considerable strength and tenacity; resembling, with great exactness, that of the Isle of Alney, and the other marsh or meadow lands of the Severn *; except in the deeper tinge of red which the soil of South Sedgemoor has received, from a greater mixture of colored water, which the red soils of the Vale of Taunton, and the North Eastern base of the Blackdown hills, have furnished.

The HERBAGE is singularly fine: apparently the Dogstail (*Cynosurus Cristatus*), Raygrass, and White Clover; with, however, some plots of thistles, on the drier parts, and stripes of silver weed (*Potentilla Anserina*) on the sides of the drains, and more swampy places.

Hence, this extent of marshes may be considered as land of the first quality: fit for every purpose of permanent grassland.

N 3

The

* For farther Remarks on the formation of Marsh and Meadow lands, see the RURAL ECONOMY of GLOUCESTERSHIRE, Vol. I. P. 179.

The stock which it bore, at the time I was over it, were Horses, Cattle, Sheep, and Geese.

Of the Horses, I saw nothing which struck me as requiring notice.

The Cattle consisted chiefly of young growing stock—mostly two or three years old. With, however, many Cows; some of them apparently in milk, or recently thrown up. The condition of most of these Cattle was good; many of them were full of flesh; though the grass was short, as that of Sheep and Geese Commons usually is found. Aged Cattle, I understood, are brought forward on these commonable lands, to be finished with after-grass.

The Sheep were chiefly or wholly of the horned breed; and had been put upon these lands, for the purpose of fattening. In a favorable year, it seems, they get tolerably fat. But much drought bakes those clayey lands, and much rain renders them too wet for Sheep.

The myriads of Geese are incalculable. The whole are subjected to the operation
of

of "pulling." They are now (13 September) covered with down, only. The operation, I was informed, is repeated several times, in the course of the summer; and found very profitable. They are kept on the "Moor," all winter. In long-continued frost and snow, they are fed, and, generally, I was told, with Beans.

REMARKS.

FROM this cursory view, of these unappropriated lands, they appear to be of some considerable value, in their present commonable state. But viewing them as being, naturally, grazing and mowing grounds of a superior quality; and seeing the uncertainty of seasons in this climate; there can be little doubt of their being capable of affording much greater profit, to individuals, and to the Community, in a state of appropriation and division.

The prompt objection to the alteration is that of giving a check to the rearing of Cattle; and, some will add, to the rearing

of Geese. The last, however, is not an object of sufficient importance, either in RURAL, or POLITICAL ECONOMY, to weigh, as an argument, on this subject;—though the feathers may be entitled to their full weight. And, with respect to the former, it may be said, that it cannot be good policy to suffer lands to lie in an under-productive state; by way of forcing the propagation of any particular species of animals; to the detriment of the aggregate produce of the Country.

CURSORY

CURSORY REMARKS
IN A JOURNEY THROUGH
SOMERSETSHIRE*.

T I V E R T O N

T O

T A U N T O N .

(Twentyone Miles.)

FRIDAY, 19 SEPTEMBER, 1794.

LEAVE the charming environs of Tiverton: the finest situation in Devonshire; and one of the first in the Island.

Meet many lime carts, from the works on the borders of Somersetshire. The lime mostly in bags: some in bulk.

Pack.

* In continuation of that through NORTH DEVONSHIRE. I must again apologize for the *nakedness* of these remarks.

Packhorses laden with hay, in trusses,

A view of the rich environs of Bradnich opens : backed by the hills of East Devonshire.

Pass through a rich plot of country, round Halberton (three miles). The subsoil red grouchy gravel ; as near Hatherley,

Some fields of fine turneps ; beautifully clean.

The road good : now mending, with flinty gravel, or broken flints.

More good turneps ; near Sampford.

A variegated subsoil : red and white.

Enter flat furzegrown commons, and leave the rich District of Tiverton.

The Blackdown hills, with mountain features, appear in front, and at hand.

Meet more lime carts, and some waggon : the last of the West of England construction.

Instance of mowing dwarf furze : a second workman following, with a rake, to form the swaths into faggots.

Pass a young plantation of forest trees, of different species ; put in among dwarf furze : the first instance of planting (excepting

cepting the Scotch firs near Hatherley) observed in this journey of near a hundred miles!

Pits of red gravel, by the side of a good road.

The subsoil—a seam of waterworn gravel, and rough pebbles.

Leave the Vale of Exeter.

Join the Exeter road (nine miles), and enter Maiden Down: a wide furzegrown common: the depressed ridge which separates the Vales of Exeter and Taunton.

A broad view of Somersetshire breaks upon the eye: the Vale of Taunton, backed by the Quantoc hills.

Observe small and very neat cattle, on the commons,

A deep white sandy substratum, and heavy sandy roads.

Some good oxen of the *Somersetshire* breed. Not so *clean* as the best of the North Devonshire.

More beautifully clean turneps.

Sandy road, and hollow way: the substratum red sandy rock.

A tall

A tall English orchard ! (near Wel-
lington) the stems five or six feet high.

Instance of burning Beat, in the Devon-
shire manner.

Westcountry waggons prevail ; no in-
fection.

A fallow laid up, in ribs and trenches.

Poor village huts.

Six oxen stirring a fallow of strong red
land,

Meet a string of culm carts ; on their
way, from the Taunton Navigation, to the
Limeworks.

Some neat clean young cattle :

Dip into a close wood-bound flat : high
hedges and hedgerow timber ; as in East
Norfolk.

The hedgebanks lower ; but still wide,
and partake of the Devonshire coppice
hedges.

Devonshire tools in use, here. The
pointed shovel, common.

Pass several pieces of good clean tur-
neps.

Hedge trees universally lopped.

A few

A few single Hawthorn hedges begin to appear.

Several instances of stubble turneps.

Some thick polled sheep.

Lime compost, on headlands, as in Devonshire.

Instance of bean stubble, or the "arrish" of some other pulse, dunged for wheat.

Some good Somersetshire oxen: dark blood red.

Subsoil variegated: streaks of red and white.

Healthy, tallstemed, English orchards.

Leave the red land: the soil and subsoil, now, of a light brown color.

Observe small mountain sheep; partially horned; as those of Okehampton.

Much hedgerow timber; mostly Elm.

A dairy of good cows.

Charming road; with a high broad footpath. A London-like approach to

TAUNTON;—a large, well built, handsome town: the tower of the Church of St. Mary is singularly tall and beautiful.

THE MARKET OF TAUNTON.

THE Market Place of Taunton is one of the first in the Kingdom ; whether as to size, neatness, or accommodations : a triangular inclosure, fitted up with streets of covered stalls, for butchers meat, and furnished with spacious colonnades, for corn, poultry, &c. and one for cheese, bacon, and other articles,—which are sold, *retail*, by farmers' wives and daughters : an unusual, but a very *political* way of bringing these articles, at once, to the consumer ; without the intervention of mere dealers.

The Corn Market, here, as in Norfolk, is held in the afternoon ; beginning about three o'clock. Much corn in the market, in narrow two bushel bags ; each seller having a tray, to shoot part of a bag into, that its quality may be the better seen. Observed no samples ; but understand that much is sold through their medium*.

TAUNTON

* These Remarks, on the Market of Taunton, were chiefly made in 1791.

T A U N T O N

T O

S O M E R T O N .

(Eighteen Miles.)

SATURDAY, 20 SEPTEMBER, 1794.

THE Country, for the first two miles, is nearly flat : then somewhat swelling : a rich fine country.

Hawthorn hedges common.

Many stubble turneps : some of them promising.

Much arable land : soil mostly a strong red loam.

Many wheat stubbles turned under : an evidence of the forward state of husbandry.

Arrish mows common, in this part of Somersetshire.

Instance of an Ox cart, with the yoke hung to the pole, by means of a wooden bow, instead of an iron ring. Doubtless the

the primitive method. Beautifully simple; but liable to accidents.

Mistletoe observable in the orchards!

The plow of Somersetshire has a long but well turned moldboard; with a wrest, standing somewhat high: and with a ladder-piece behind, which steadies a long, slender, right handle, shooting forward to the beam.

Leave a plot of vale land, to the right.

The under stratum appears in seams of red earth, and a sort of white stoney substance.

Wheat stubbles in narrow ridges, as throughout Devonshire.

Many fallows, for wheat, are seen.

Act of Parliament hedges, against the road. The first, probably, of any extent, from the Landsend.

Still many hedgerow Elms.

Instance of paring and burning.

A large field orchard going to decay.

Pass some good young cattle.

The pointed shovel still in use.

Cross a dip of cold weak land (five miles).

A rainy

A rainy stormy morning. How convenient is a carriage, and how productive of information ! A tablet full of interesting facts, in travelling five or six miles ; notwithstanding the unfavorableness of the morning. A traveller on horseback could not look up : nor if anything met his eye, could he note it, with conveniency *.

Ox carts (wains or coops) common.

Instance of a young field orchard (at North Curry). The plants tall, and set out at good distances, in the best Herefordshire manner.

A quarry of blue building stone.

Many orchard grounds.

A newly planted quickset hedge.

Many neat young cattle.

The soil and subsoil still red.

Good limestone road †.

VOL. II.

O

Ascend

* This remark applies to TRAVELLING. In examining a particular District or STATION, RIDING ON HORSEBACK is preferable to a carriage ; and WALKING, infinitely preferable to either.

† A singular method of breaking road materials, especially the base flints, that have been repeatedly mentioned,

is

Ascend the limestone heights*.

Carts and waggons; at the lime kilns;
no pack horses.

A good back view of the Vale of Taunton.

A broad view of South Sedgemore,—
covered with cattle, sheep, and geese; and,
over it, a view of the Poldown and Mendip hills.

Some good horned lambs.

Thin limestone land; and more lime
kilns.

A rich looking valley of land opens to
the right.

Instance of a field orchard, in a state of
arable culture, as in Herefordshire.

A Sedgemore, or Marsh, of some extent,
is seen to the right.

Swing plows universal.

More field orchards.

The hedges of the road cropped.

A herd

is observable in this Country: a one-handed hammer
being used, by a workman sitting; a method which, it is
asserted, is more expeditious, than the ordinary one of
using the sledge hammer.

* See Page 176.

A herd of tall thin white pigs.
Continue upon cold limestone heights.

Pass Burton Pynsent:

A neat farmery, and large farm.

Clean fallows, and good clover.

Farm hedges kept down to fence height.

Four heavy horses plowing broken ground.

Six oxen employed in the same operation; with heavy long swing plows.

A full hedgerow of apple trees; as about Bromyard in Herefordshire.

Pass through Curry Rival.

Strong cold land: wheat, beans, and clover.

See large flocks of horned sheep; of a breed similar to that of Dorsetshire and East Devonshire.

Leave the limestone heights, and descend towards Langport.

A wide Vale District opens to the right.

A naked Chiltern Country, in front, and to the left.

Six oxen at plow, and four at harrow: all in yoke: also two at plow, with two horses before them; as in the South Hams

of Devonshire ; and as formerly in Yorkshire.

See Ham Hill, or Hamdown Hill ; a broken prominent, striking object.

Flat-roofed hayricks, as in Cleveland.

Cross the Parret, at LANGPORT,—a mean market town. A Navigation and Coal Yard.

Pantiles in use, as a covering.

Enter a common field : the first from the Landsend.

Foul bad husbandry : couch and thistles.

The subsoil limestone gravel ; yet the land appears to be cold and weak.

Flocks of sheep now in these open fields.

Another flat of marshes appear to the right.

In front, a wide range of limestone *Downs*. Large depressed swells of arable lands, with shallow grassy dips between them : part in open common fields,—part inclosed.

A windmill appears : the first in this journey.

Large flocks of sheep, in the open fields.

A sheep fold : the first.

An

An open naked Cambridgeshire-like Country.

Catch a distant view of the Dorsetshire hills.

Many good cart horses, on the road.

Large limestone flags—or coarse marble slabs—raised near the road.

The plow team—four horses, at length.

The tops of the swells are dry—stone to the surface; but the sides appear cold and weak.

Foul thistly common fields.

A roughly broken passage, to the left.

A large sheep fold.

Somerton appears in a broad flat; or shallow basin; with rising grounds on every side.

A large field of rough old grassland: *appropriated waste.*

An ox waggon, partially loaded with straw, and thatched; doubtless, a harvest waggon, thus set by for the next season.

Enter SOMERTON,—another mean market town: the suburbs in ruins.

S O M E R T O N

A N D I T S

E N V I R O N S.

A DECAYING Place: the remains, probably, of a good Town: now, evidently, in neglect.

The building materials limestone and thatch. The stones neatly formed, as in the Vale of Pickering.

Below the Town, towards the East, the environs are beautifully broken. A valley of rich marsh land, overlooked by bold wooded knolls.

Large good oxen, and good, horned wedders, now grazing in the marshes.

S O M E R T O N

T O

S H I P T O N M A L L E T.

(Fifteen Miles.)

SATURDAY, 20 SEPTEMBER, 1794.

CROSS the meadowy valley, and wind among the rugged hillocks, which form its Northern bank.

A flock

A flock of very neat, horned ewes:—
in the best *Dorsetshire* form.

Ascend a thin foiled limestone swell.

The Valley re-opens, to the right.

Pass a dairy of indifferent cows.

The soil encreases in strength.

Small fields and hedgerow elms: evidences of deep well foiled land; but unusual in elevated situations.

The Country now more open; and a fine Valley is disclosed to the left.

A remarkable line of road; on a well foiled ridge, with a rich Vale District, on either hand: the Vallies of Somerton and Glastonbury.

The conical hillock, near Glastonbury, surmounted by a tower, is a striking object, in this point of view.

Strong wheat stubbles, on these uplands.

A fallow for wheat, now folding.

Marble quarries on either side of the road. Many men at work; and teams waiting. Mostly raised in large slabs, six or eight inches thick, and several feet in dimensions. Lie horizontally, and near the

surface of level ground. Men employed in polishing them. The color a blue grey.

Village buildings of stone and pantile.

Some orchards, on this cool soil. But the substratum is calcareous.

The Valley or Vale of Glastonbury, backed by the Mendip Hills, spreads wide beneath the eye.

Enter cold-foiled common fields (five miles).

Beans a prevailing crop.

The soil a cold crumbling clay; like that over the claystone of the Vale of Gloucester,

Reach the point of the cold-foiled ridge; and descend into the VALE OF GLASTONBURY*.

Cross the river Brent, at Lydford.

A parcel of ill formed cows, mostly black,

Cold Vale land—at present bare of herbage.

The

* This is a difficult passage of country to class. It is more than a *Valley*; yet wants something of the *Vale* character. However, below the part, here crossed, it seems to spread wider, and to acquire a variety of outline and diversity of surface. I denominate it of Glastonbury, as it contains that antient place,

The mile stones shamefully defaced; but how easy to remedy the defect, with paint, Marble stiles and fences common.

Elm trees and pollards, scattered over grafs inclosures.

Still a cold flat Vale District, The fields blue, with Devilsbit (*Scabiosa succisa*).

The grafs inclosures intersected with surface drains. A very cold plot of country: weak and languid, even at this season of the year. Adapted to the cheese dairy, and the rearing of cattle.

Some lean cows: but of a better breed than the last.

Many pollards in the hedges.

A plot of woodland, well timbered: much of the land of this Vale is well adapted to oak timber. The hedgerows, at least, ought to be filled with it.

The whole in a state of grafs: no arable land seen from the road.

Another dairy of small ill formed cows.

Haystacks in the field; as in the dairy Districts of Yorkshire.

The land improves: still wholly in grafs.

A well-

A well soiled rising ground, in front ;
wholly covered with grass.

A large dairy of cows, of the middle-
horned breed ; but not of the *Devonshire*
variety.

Haystacks capped, only, with thatch ; as
in the Yorkshire practice.

Some roomy good cows : variously
colored ?

Arrivé at the foot of the hill : the Vale
is some three or four miles wide.

The road across it is a straight line. Q.
Roman ?

Another dairy of many colored cows.

Reach the upper stages of the steep ;—
and enjoy the views :—extensive, rich, and
picturable.

Good grassland upon these hills ; and
stocked with good cows.

From the summit of the hill, an entire
circle of views are commanded : a wide sea
of grasslands : the hills and the Vale equally
green.

The subsoil, of this fertile upland, is
limestone gravel, in thin layers, between
loam.

Some

Some very good cows, on these hills.

Another Vale opens to the left: a fine, strongly featured country.

A large Marsh or Sedgemore appears to the left.

Observe several *sheet cows*: are they natives of Somersetshire *?

Many good sheep,—of the Dorsetshire, or West of England breed. They appear to be common to Dorsetshire, East Devonshire, and this part of Somersetshire.

A rick frame loaded with straw, and thatched as a roof.

Meet a load of *Somerſetſhire* “reed:” differing from that of *Devonshire*; as having the ears cut off: consisting of clean straight unbruised stems only.

Descend into another Valley of grassland; narrower, but better soiled, than the last.

Limestone still raised by the side of the road:

* This singular variety, which is observable in Gentlemen's grounds, in different parts of the Island, is given by color, chiefly or wholly. A *SHEET COW* resembles a red cow of North Devonshire, or West Somersetshire, with a white sheet thrown over her barrel; her head, neck, shoulders, and hind parts, being uncovered.

road : thick strata of brown earth between the seams of stone ; differing from the blue marble.

Instance of underdraining, with flat stones set up, in the form of the letter V, inverted.

Ascend another range of grassland swells,

Stone fence walls, on these uplands : the first, from the westward, in this line of road. Some, in courses of dry stones, alternately with other courses, laid in earth mortar.

Instance of unbitten aftergrafs ; the first observed, in this stage :—a dairy country.

Good horned wedders, in these grass grounds.

Leave a rich grassy hillock, to the right.

The valley of Shipton opens prettily :—rich grassland, beautifully surfaced ; but disfigured with stone fences.

SHIPTON

S H I P T O N

AND ITS

E N V I R O N S.

A SMALL Market Town; situated near the head of a fine valley.

The church stately, and in a good style of architecture. Several neat houses: a seat of the woollen manufacture.

On the North side of the valley, are some bold hillocks, composed wholly of masses of limestone, covered with a rich deep soil. The rock remarkably strong: very different from the blue marble, before noticed. This, in general appearance, resembles more the stone of St. Vincent's rock, near Bristol.

A limekiln and large quarries;—seemingly of long standing.

Ashen pollards scattered over these grass-lands; chiefly by the sides of stone walls: a practice I have elsewhere observed, on well soiled limestone lands.

Some considerable dairies of good cows, in these environs.

SHIPTON

SHIPTON MALLETT

TO

FROME.

(Twelve Miles)

SUNDAY, 21 SEPTEMBER, 1794.

CROSS the valley above the town: the water a mere rivulet. No appearance of mills of manufacture.

A shameful road toll: and this where materials are so abundant.

Pass a dairy of twenty or thirty good cows.

A large flock of sheep, on a thinsoiled hillock to the right.

Rise another grassy height: the soil redish; the subsoil limestone gravel.

A foul wheat stubble; and an attempt at turneps. Dairy men are bad arable farmers.

More

More large light-colored cows ; also a few calves : the first observed in this cow District !

More finch-backed, Gloucestershire-like cows : with some mixed-breed heifers : how little young stock appears.

A wide view, to the right, backed by the broken heights of Stourton.

Still grassland and ashen pollards : with some stone fences ; but more thorn hedges.

Pass some large dairy farm.

A herd of good West of England cows : a single instance.

A limestone quarry : a strong redish rock : the soil over it red, and of good depth.

Leave the limestone grassland Country.

Enter a weaksoiled arable District : the soil still red : in appearance, the same as that which covers the limestone rock.

The soil still weaker : sandy and wet.

A strongly featured country to the right ; about Stourton.

A wide Vale District opens, in front. The fertile Vale of Trowbridge : screened, on the right, by the Wiltshire Downs ; and,

Round rodden cow cribs, as in Gloucestershire.

A small orchard or two.

Large dairy grounds, intermixed with arable inclosures.

A flock of good Wiltshire ewes.

Cross a sweetly wooded dell.

The substratum, on the west side, red shattered rock ; on the east side, pale soft rubble : distinct masses of materials.

Village Buildings — stone pantiles and thatch ; with some heavy stone-slates.

Pass a large farmery, on the right.

A passage of fine grassland.

Good stone road, between cropped hedges.

Enter FROME : a large well built place ; in a fine situation. Several neat boxes, in its environs : the town likewise neat ; though a manufacturing place : — Leeds, without its coals and dirt. The Warminster and Longleat Hills, are good objects from these environs.

F R O M E
T O
D E V I Z E S.

(Twenty Miles)

SUNDAY, 21 SEPTEMBER, 1794.

MORE deep loam on limestone: with mixed cultivation: grafs and arable.

Stone walls, in the environs of Frome, as of Shipton: ugly, it is true; but effectual against hedgebreakers. Both of them are manufacturing towns; and, of course, inhabited, by the dissolute and daring.

A large dairy of longish-horned cows: apparently of a mixed breed.

A rich, clean country (two miles).

The name of the village, on a board, at the entrance of "Beckington:" a liberal act, in those who placed it there.

A large

A large dairy of mixed cows.

The road hedges legally kept.

Field hay ricks still common.

Three full-bred longhorned cows: the first.

Deep clayey subsoil (four miles).

Single-wheeled plows, with winding wooden moldboards.

A recent inclosure, from a state of common.

The land a deep loam. The quicksets guarded with two lines of dead hedgework.

A flat, yet apparently, dry country.

Enter WILTSHIRE.

A cold flat vale passage.

Farm houses—of timber and brick panels; with weatherboarded barns; as in the Southern Counties.

Rise a dryer, bettersoiled swell of land:

Stocked with large herds of cows.

Fat cart horses, at grafs (Sunday).

A view of North Wiltshire opens, in front.

Longhorned Cows, and West of England Oxen.

Pass through TROWBRIDGE; a fair town, finely situated. Many good houses. The principal street is remarkably neat. Seated on a clean swell of rich land; overlooking a sweetly wooded basin, backed by the Wiltshire Hills.

Catch a broad and extensive view of the Vale of North Wiltshire.

The road hedges universally shorn.

Instance of high grassland ridges, as in Gloucestershire and North Wiltshire: the first observed in this journey.

Some large orchard grounds.

Bad roads: soft limestone is among the worst of road materials.

Many hedgerow Elms.

Singlewheel plows, in common use.

Some very foul bad farming:

And a large inclosure of rough anthilly land: left, in this wasteful state,—as if to keep the arable lands in countenance.

Gates, with four bars, and shouldered heartrees, universal, across this Vale.

Twenty full-bred longhorned cows.

A fine Vale District: rich *waves* of grass-land (3 miles from Trowbridge).

More

More rich grasslands ; stocked with longhorned cows : now apparently in full possession.

Many hedgerow Elms : some of them large.

A compleat dairy country (three to four miles). A small goose and pig common : how much like many passages of the Vales of Gloucestershire.

A good longhorned bull ; and some heifers.

See, in a quarry, fine loam, three feet deep, on limestone !

Some patches of field potatoes.

A wide extent of Elm-wooded Vale, to the right.

Many good Wiltshire sheep.

The base, or unbroken area, of the Vale terminates. Ascend the fair hillock of Seend : --- charming situation ! rich and beautiful views, from every point : three or four habitable houses scattered on the hill : elegant village !

Cross a dip of rich arable land : strong dark brown soil, Wheat and beans ; but no clover !

Ascend the first stage of the Wiltshire Hills, to DEVIZES; a large and respectable market town; finely situated.

From its environs, catch a broad view of the rich and extensive Vale of Trowbridge; backed by the rising grounds of Somersetshire, and distanced by the Mendip Hills;—tracing back, with the eye, a principal part of this day's journey.

A GENERAL

A
GENERAL VIEW
 OF THE
 MORE SOUTHERN PARTS
 OF
 SOMERSETSHIRE.

THE Line of Country, which passed more immediately under the eye, in this journey, varies much, in Natural Characters, and Rural Management; separating, analytically, into

The Vale of Taunton;

The inclosed Limestone Heights, between the Tone and the Parret;

The open-Field District, or Limestone Downs, between Langport and Somerton:

The strong arable Lands, on Limestone, between the Brook of Somerton and the Brent;

The Vale of Glastonbury;

The rich Grassland Limestone Heights, on either side of Shipton Mallet; terminating in

The Vale of Trowbridge.

THE ELEVATION of this Line of Country is inconsiderable; unless towards its Eastern extremity. The tide flows, or has heretofore flowed, within much of these Southern parts of Somersetshire; extensive flats of marshes being seen on either hand. About Shipton, and thence towards Frome, the ground rises, but not considerably, and the waters which fall on it divide; part of them passing westward to the Bay of Bridgewater; the rest falling into the branches of the Avon.

THE SURFACE is singularly diversified; the hills frequently rise abruptly, from wide flat vallies; or extensive tracts of marshes, which spread their broad level surfaces between them; giving them, in some points of view, and through a humid atmosphere, the appearance of Islands.

THE CLIMATE is probably forward. Every appearance of harvest had passed away.

The

The WATERS,---SOILS,---SUBSOILS,---and FOSSILS, are detailed in the Journal; and it may be needless to remark, here, that, between the Vales of Taunton and Trowbridge (both of which have evidently been formed, with heterogeneous materials), the Country is a continued chain of LIME-STONE hills; or that the nature of the stone is strikingly different; consisting of two distinct species of Limestone; which doubtless have had separate origins; the wide Valley of Glastonbury appearing to divide them.

THE INLAND NAVIGATIONS, observed, are those of Taunton and Langport. Few parts of this Island are better adapted to navigable Canals, than this part of Somersetshire: and surely, the Brent and the Avon, seeing the Coals, the Limestone, and the Manufacture, which lie between them, might be joined with advantage.

THE STATE OF INCLOSURE appears in the detail: the entire Country is inclosed; except the moors or common marshes, and the passage of open common fields, between Langport and Somerton.

The

The PRODUCTIONS may likewise be gathered from the detail. To the West of the Valley of Glastonbury, *arable crops* are prevalent : in that Vale, and to the East of it, *grassland* is the almost only produce, even to the confines of the County, and through the whole of the Vale of Trowbridge : an extent of grassland Country, which is rarely met with ; especially where the surface is greatly diversified. Of *woodland*, this Line of Country, the Vales which terminate it excepted, may be said to be destitute : and the *bedgerow wood* is inconsiderable ; the fuel being chiefly, perhaps, *peats* of the fens and marshes.

VILLAGE and FARM BUILDINGS are wholly of stone, covered with thatch, tiles, or a heavy kind of slate. Left the mud wall, in the Vale of Taunton ; and met the half-timber building, and weatherboarding, in the Vale of Trowbridge.

A BROAD CLOTH MANUFACTURE, of considerable extent, I believe, is carried on, in the Eastern parts of this Line of Country, But, in travelling it, few traces of such a manufacture appear. The manufacturing
Districts

Districts of Yorkshire, and Lancashire,--- more especially those of the woollen manufactures, are marked by their dirt and misery : companions, however, which, it would appear, in travelling through Somersetshire and Wiltshire, are not essentially necessary to the WOOLEN MANUFACTURE: the most NATURAL, as well as the most POLITICAL, branch of Manufacture, this Island can encourage.

The FARMS, or parcels of land in the occupation of individuals, appear to be small ; especially the arable farms, on the West side of the County, where the life-lease tenure is prevalent, and extends, I believe, more or less throughout the county of Somerset, and within that of Wilts. On the East side of the County, there appears to be some dairy farms of a greater magnitude.

BEASTS OF LABOR. On the arable side of the County, Oxen are prevalent, and freely used, in all the ordinary works of husbandry ; but, in the dairy country, and on the borders of Wiltshire, a less *profitable*
race

race of animals (for the Public at least) is, I fear, in common use*.

The CATTLE of Somersetshire are various. The West of England breed are confined to the Western and Southern parts of the County; the Vale of Glastonbury appearing;

* TAX ON HORSES. In these days of famine and taxation,—what political blindness must that be, which suffers the produce of the Country to be consumed, by animals that make no return to the magazine of human food; nor make any adequate recompense to the Community, for the expence they are hourly creating. Animals that are preying on the sustenance which is wanted to suppress the cravings of the species. Animals for whose support the Country may be said to be now paying sums incalculable. And, surely, they ought to be made accountable for an adequate part of the debt they are lavishly incurring.

A tax of one Guinea, a year (on every horse, whether used in husbandry or otherwise), for the first three years, with an additional tax of one Guinea, a year, every third year, so long as sound policy shall see right (thus allowing time for the rearing of cattle), will raise an immense revenue; will lessen, essentially, the consumption of grain; and throw into the markets an abundant increase of animal food.

For Remarks, and Calculations, on the comparative Effect of Horses and Cattle, as Beasts of Draft in Husbandry, see the RURAL ECONOMY of the MIDLAND COUNTIES, Vol. I. Page 470.

appearing, in the Line of Country travelled through in this journey, to be the Northern boundary of this breed. The cows of the dairy District are probably bought in; many of them have the marks of the Gloucestershire breed; while others wear appearances of the middle-horned breed of the North of Yorkshire:---light colored, and irregularly pied: a variety of color in the middle-horned breed, which I did not expect to have met with, in Somersetshire. Knowing that the long-horned breed have been for a length of time established in North Wiltshire, and the red breed in the Vale of Taunton, I expected to have found a mixture of these two breeds, rather than a distinct variety.

The SHEEP of Somersetshire have not been less the subject of surprize, than its cattle. I did not expect to find what in Smithfield is emphatically called "horned sheep,"---and much less the *Dorsetshire* variety of that sort,---inhabiting, as a native breed, any part of Somersetshire. But perhaps they are most prevalent, in Somersetshire,

setshire, as in Devonshire, on the Dorsetshire side of the County.

Of SWINE, Somersetshire appears still to persevere in the old white breed ; which may be said to be in full possession of the more Western Counties.

Of BEES I *observed* but one solitary hive ! In the long Line of Country, between Cornwall and Wiltshire, I do not recollect to have *seen* more than half a dozen of those industrious families ! --- whose labors are clear gain to a Country, --- who contribute to the National stock without diminishing any other article of its produce.

A RETROSPECTIVE

RETROSPECTIVE VIEW

OF THE

WEST OF ENGLAND.

FROM the foregoing Examinations, it is evident, that the Point of Land, which is the more immediate subject of these Volumes, forms a NATURAL DEPARTMENT of this Kingdom; and that it was, heretofore (and still indeed may be said to remain), a PENINSULA,---partially cut off, by inlets of the Bays of Bridgewater and Bridport, from the main body of the Island.

It is equally evident, from these surveys, that the Department now in view is, at present, under a course of RURAL MANAGEMENT which differs, in many respects, from

from that of the Island at large ; and whose basis, it is highly probable, has had a separate origin.

Judging from the modern practice of colonization, it is reasonable to suppose, that the Bays; Inlets, and Estuaries of Rivers, in this Island, were the first settled; and that, as inhabitants encreased, cultivation, by progressive steps, approached the higher lands ; climbing, in the course of time, to the interior heights.

Admitting that Cornwall and Devonshire were early colonized, and the whole of them by the same people ; and that, afterward, a colony of a different race, took possession of the inlets of the Bay of Bridgewater, and the rich and ample shores, which, at that time, they doubtless afforded, the differences that are now observable, in the Rural Practices of their descendants, may be, with less difficulty, reconciled.

On this principle of colonization, the Vale of Taunton,—had the time of settlement (or invasion) been the same,—would
naturally

naturally have belonged to the settlers (or invaders) of the Bay of Bridgewater; but admitting, what will not I believe be doubted, that the Vale of Exeter was priorly possessed, and that its inhabitants had overtopped the depressed ridge which divides these Vales, before their Northern neighbours had approached it, the VALE OF TAUNTON would, in course, fall into the hands of the first settlers; and the same circumstances would naturally attend the range of heights, and their Northeastern skirts, which form what I have here named the DAIRY DISTRICT.

In process of time, and when the entire Country became subject to the same Government, a mixture of practices would take place, and the two established systems of Management would mix, and blend with each other, in the manner in which we find them, at the present day.

The Practices which, now, more particularly distinguish what, for the sake of perspicuity, I have denominated the DANMONIAN HUSBANDRY,---will appear in

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Q

the

the following detail : some particulars of which, however, are common to the four most Western Counties ; as if they had once been politically united ; with customs distinct from those of the rest of the Island : the particulars, here alluded to, relating to matters of *Policy*, rather than to *Agriculture*.

THE CULTIVATION OF COMMONABLE LANDS is, I believe, peculiar to this extremity of the Island.

THE LIFE-LEASEHOLD TENURE, though not peculiar to the West of England, is the most prevalent within it.

The uniform prevalency of SMALL FARMS mark it, in a similar manner.

The singular MANAGEMENT OF COP-PICE WOOD, which has been described, is common, and perhaps peculiar, to the Department in view.

The extraordinary FENCES of this part of the Island mark it most discriminately—common and peculiar to the Peninsula ! even to this day ! !

EARTHEN WALLS, though not peculiar to the West of England, is in no other quarter

quarter of the Island, carried up so high, and so substantially, as in this.

The circumstance of having no fixed places of hiring, or stated times of changing, FARM SERVANTS, is, I believe, peculiar to the more Western Counties.

The practice of putting out the children of paupers to farmers, as APPRENTICES IN HUSBANDRY, is, as an established custom likewise, peculiar to this part of the Island.

That of performing CARRIAGE ON HORSEBACK, may now be said to belong to this extreme part of the Island, only. Even in the Highlands of Scotland, it is in a manner laid aside.

Many or most of the IMPLÈMENTS and TOOLS of this Peninsula are peculiar to it.

The practice of BURNING BEAT (by velling, harrowing, &c.), for wheat and turneps, is likewise peculiar to this Peninsula.

In the MANAGEMENT OF LIME—as in separating the stones and ashes; mixing it with earth; as well as the manner of

spreading it on the land,---this part of the Island differs widely from the rest.

In the HARVEST MANAGEMENT, we meet with many singular traits of practice. The Arrish Mow appears to be common to the Peninsula,---even to its outskirts.

HOUSING STACKS, by hand, though petty, is peculiar. And WINNOWING, in the open air, though once, doubtless, the universal practice, is now peculiar to Devonshire and Cornwall; I mean, as the prevailing practice of an extensive, well soiled, cultivated Country.

The method of THRASHING WHEAT, without bruising the straw, is peculiar to the more Western Counties: with, however, a notable difference that has been mentioned*.

In the Management of particular Crops, the SOWING OF WHEAT is the most remarkable. But the CULTURE OF TURNEPS may, at this day, be considered as almost equally extraordinary.

The TEMPORARY LEY, of five or six years, though not peculiar to this Peninsula;

* See Page 203.

fula; yet marks it, very discriminately, from the other Western and Southern Counties.

WATERING THE SLOPES OF HILLS, though not uncommon, at present; yet, a century ago, it was probably confined to this point of the Island; and is, at this time, nowhere else so prevalent.

By its ORCHARD GROUNDS, this Department of the Island is most discriminately marked.

By the purity of its Breed of CATTLE, which though not *specifically* peculiar to this Department, are evidently a distinct *Variety*; which, in all human probability, have descended, lineally, and without admixture, from the native breed,

The fattening of GRASS CALVES, though not peculiar to this part of the Island, being likewise common in Norfolk, may nevertheless be considered as a distinct practice; as, in the interspace of two hundred miles, which separates them, I have not observed it, in the ordinary practice of Farmers.

The singular method of RAISING CREAM, which is practised in this Country, may be called its own.

The BLEEDING of grown CATTLE, for the SLAUGHTER, I have not met with, out of this Department.

The practice of keeping SWINE to two or three years old, and the method of fattening them, are peculiar to this Country, That of boiling their food, and of letting all the females remain in a state of fecundity, may likewise be mentioned as peculiarities.

The Mountain SHEEP of this part of the Island, appear to be peculiar to it. Those of the Mendip Hills I have not had an opportunity of examining.

In the SHEPHERDING of sheep, we have seen some striking traits of practice.

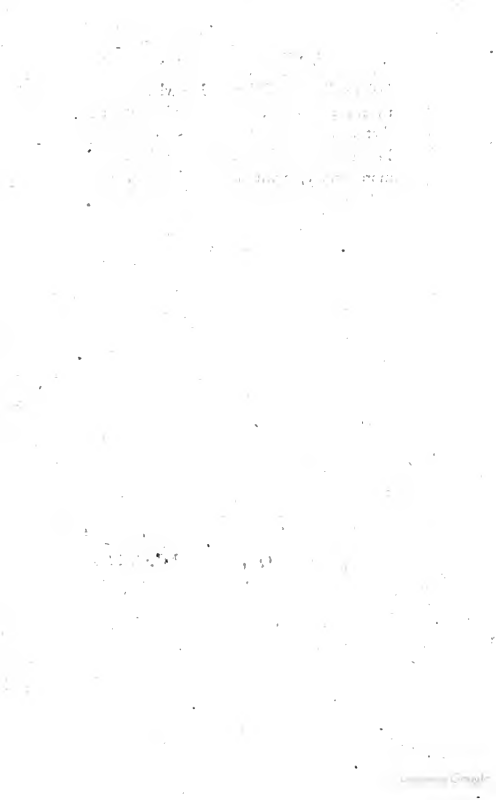
And the practice of SHEARING sheep, without previously WASHING their wool, is at present peculiar to a part of this Peninsula.

In this detail of peculiarities, we find many which cannot owe their origin to the first

first civilized possessors. But what strikes us most forcibly, in examining it, is, that in the lapse of centuries, its Rural Practices should not have assimilated, more freely, with those of the Island at large.

Q 4

MINUTES



MINUTES

IN

WEST DEVONSHIRE,

INTRODUCTORY REMARKS.

THE EXTEMPORARY OBSERVATIONS, that are here offered, may be considered as a continuation of those, which occurred in my PRACTICE, in SURREY, in NORFOLK, and in the MIDLAND DISTRICT.

If these which I am now offering, and with the same sacrifice of feelings that has ever attended my publication of extemporary Memoranda, have any claim to peculiarity of character, it consists in their pointing

pointing out the regular approach to the Field of Improvement, and the requisite cautions observable, in entering it; so as to be able to pass through it, with safety and advantage.

In this aggregate capacity, it is presumed, they may be found useful to those who are desirous to enter a field, in which foresight and circumspection are, in a superior degree, requisite. Their individual claims I presume not to adjust.

MINUTES.

M I N U T E S.

I.

1791. JULY 14th. **F**ROM PLYMOUTH to DISTRICT.
BUCKLAND PLACE.

Three or four miles from the Town of Plymouth, the fertile inclosed lands of its environs terminate; the traveller entering, apparently, the outskirts of Dartmore. To the right, wild furze-grown Commons and wooded Vallies are seen; to the left, upland Inclosures. In distance,—the ragged Tors of Dartmore on the one hand, the Cornish Mountains on the other: the scenery truly mountainous; the Valley of the Tamer, and a cultivated dip to the right, being overlooked, and in a great measure hid from the view.

About seven miles from Plymouth, the Valley of the Tavey opens; and the road, extremely unlevel, dips down to BUCK-

LAND

BUCKLAND
PLACE.

I.
BUCKLAND
PLACE.

LAND PLACE; situated somewhat below the midway of the slope; at the head of a "Coomb," or inferior Valley; in this case shallow, and spreading wide as it descends.

The situation is naturally reclusive, and is now rendered truly so, by long neglect. The remains of the Priory is the present habitation; and has been a residence of the FAMILY OF DRAKE, from the time of the CIRCUMNAVIGATOR, who purchased it.

Some half century ago, much planting has been done, round the site of the Monastery; and, during the last twenty or thirty years, scarcely a bough has been touched. The tower of the Priory, with a monastic barn of extraordinary size, and with various Gothic buildings, the remaining Offices of the Monastery, are seen (in the immediate approach through a grove of trees which fill the head of the Valley with a sullen gloom), as in a forest, far distant from the haunts of men,

2. JULY

2.

2.

JULY 14. Rode over the DEMESNE LANDS of BUCKLAND PLACE. The buildings are beset on every side with tall groves (and some of them overhung with large-grown trees, which are injurious to their roofs, and liable to crush them in their fall), except on the lower side, to the West, where the Valley is choaked up with fruit trees, for some distance below the house; which is thus involved continually in a damp and stagnant air; unfit for men or animals to breathe. An over stocked rookery, which occupies a considerable part of these groves, is rendered, by this close atmosphere, offensive in the extreme.

BUCKLAND
FARM.

But, bursting from this gloom, one of the first farms in the Island is entered. It contains near eight hundred acres of land: lying on every side of the house; but chiefly

BUCKLAND
FARM.

2. chiefly below it. Almost five hundred acres (including hedges, &c.) are in cultivation; the rest in old woodlands, groves, and orchard grounds.

Near thirty acres of the lower grounds of the Valley, over which a principal part of the cultivated lands are spread, have long been imperfectly watered, by a rill that rises in the uppermost part of the farm, and falls down the Valley into the Tavey; which forms the Western boundary of the farm, for more than a mile.

The upper part of the Valley of the Tavey is a steep-sided dell; hung with wood on either side; having a narrow meadowy bottom. The very Wye and its banks! winding in the most picturable manner; with here and there a rugged rock rising above the coppice wood; its limits, with respect to this farm, closing, in a narrow secluded part, with a salmon weir, thrown across the river; forming a cataract of no mean effect. The lower part of the Valley is more open; the river terminating, within sight from the lovely swelling grounds of this *monastic demesne*, in a winding estuary;

ary; which is there margined with steep banks,—feathered to the water, with the woods of Maristowe.

2.

BUCKLAND
FARM.

3.

JULY 15. Rode into CORNWALL; by Dinham Bridge, Beer-alston, Calstock Passage (Ferry), Calstock Church—New Bridge—across the Heath—and back by Dinham Bridge.

DISTRICT.

A most *romantic* ride! How much the scenery of this District resembles that of Monmouthshire, &c.: steep wooded banks of rivers; here broken and rugged, there showing a steeper face of rock. The heaths, on the Cornish side of the Tamer, strewn with blocks and fragments of granite, add to the savageness of the scenery, whether viewed at hand or in distance. And the inhabitants appear as rude and uncultivated as their Country: the Ferryman
at

3.

DISTRICT.

at **Calstock** is in the lowest stage of civilization.

The **Valley of the Tavy**, at the height here crossed, is a mere dingle, wooded down to the river. But that of the **Tamer**, opposite and below **Calstock**, is open, well soiled, and set with orchards; the river, here, beginning to expand into an estuary; the tide flowing some mile or two above the **Village of Calstock**. Nevertheless, its windings are most abrupt and striking; the antient mansion of **Curteel** marking one of its bends, in the happiest manner.

LIMEKILNS.

The upper part of the estuary is set with limekilns on either side; for the use of the **Country** near and above them; the stones and culm being brought up in mast vessels. The cultivated country is, now, everywhere studded with lime-heaps.

SALMON
WEIR.

Immediately above the tide's way is a **Salmon Weir**; and, above this, the wild savage scenery just described; in the midst

* Observed two dinner kettles boiling on the top of one of these kilns. If the nature of the fuel requires that the fire should burn outwardly, this is a frugal practice. If not, it is an extravagant way of dressing dinners.

of which, near Newbridge, is a copper mine, now working. 3.

In this part of the ride, at the foot of Hingstone, one of the highest of the Western mountains, I observed two Cornish mares and foals, the smallest I have seen; the mares not more, I apprehend, than eleven hands high. Young cattle, and even oxen, are seen on these heaths. But no sheep appeared in any part of this morning's stroll. HORSES.

The climature, even of the Vallies, is later than that of East Devonshire. Wheats are still green. On the Upper lands much grass is yet unmown! but evidently receiving great injury by standing. CLIMATE.

The produce is corn, grass, heath, and wood; the two latter covering, in this rude broken ride, much the largest proportion of surface. PRODUCE.

4.

DISTRICT.

JULY 16. Rode to the SKIRTS OF THE DARTMORE HILLS; over Roborough Down, to Mavey, Walkhamton, &c. *

Roborough Down, with the chain of rough Commons which reach from hence to near Plymouth, forming an oblong depressed swell, has every appearance of being a fragment of the Dartmore Mountain †; from which it is separated by an irregular Valley, containing three or four townships of cultivated land. Some of this land is of
a very

* In company with Mr. STAPLETON of BUCKLAND: a man to whose superior intelligence I owe much: a man who, with fourscore years of experience, possesses an activity of body and mind, which many men, of half his years, would be happy to enjoy.

† It has been observed, however, that the prevailing stone of these Downs is very different, in composition and texture, from the quartzose granite of Dartmore and the Cornish Mountains; between which this swell is situated: affording an interesting subject to the Geologist.

a very superior quality ; one considerable plot of it letting at forty or fifty shillings an acre, in this bleak and humid climate, and in this remote situation.

4

SOIL.

The more central parts of this Valley now contain some fine crops of wheat, and much tolerable barley. But the soil grows weaker, and less productive, as the Hills of Dartmore are approached.

The Sheep on the skirts of the hills are mostly polled ; but some individuals are horned : they are very uneven as to carcass : some of them, nevertheless, are not in a bad form.

SHEEP.

The Cattle, seen in this morning's ride, are everywhere clean, and mostly of good frame. Chiefly of a dark red color ; a few of them with white Gloucestershire spines. The size that of Gloucestershire, and West Suffex.

CATTLE.

The Plow Team is chiefly Oxen. Saw six good ones in a Team, in light work ; yet did not perform, even that, with due effect. One of the pairs, with a proper plow, in good hands, would make much better work.

FLOW TEAM.

4.

NAMES OF
HUNDREDS.

It may be remarked, that the Hundred, or subdivision of the County, which includes a considerable part of the District of West Devonshire, takes its name, or is understood to have taken its name, from the Common which I crossed and repassed, this morning; or from some Town or Village which gave name to the Common; and of which there are at present no traces*.

In this stroll, I crossed repeatedly the ARTIFICIAL BROOK, which waters the
Town

* This corresponds with the tradition of East Devonshire. (See page 132.) It is probable, however, that the Down, at least, received its name from an extraordinary pile of rock, or large stones, the remains of which still form a striking object, on the face of these wild lands: bearing some resemblance to the Tors of the Mountains. In the provincial dialect of the District, *Roo*, is still commonly used for *rough*; and *Burrow* is the ordinary name of a *heap*, whether of earth or stones (a combination which is still strictly preserved in pronunciation). Under this rough pile of rocks, which may, heretofore, have been more considerable than it is at present, the huts of the first settlers may have been raised; or Druidical Assemblies have been held.

The etymons of the names of HUNDREDS, or DIVISIONS OF COUNTIES, are most difficult; and the Antiquary, at least, is interested in their elucidation.

Town of Plymouth, and which is taken out of a small river, in one of the Vallies of Dartmore. It is a treasure, not only to Plymouth, but to the long range of dry uplands, through which it passes. This public good owes its valuable existence to one of the Drake family: namely, the Grandfather of the present Sir Francis Drake. He not only furnished the water, from his own manor, but also the plan; and, in difficult cases, directed the execution.

4.

PLYMOUTH
LEAT.

5.

JULY 27. Yesterday, rode to TAMERTON, on the Eastern banks of the Tamer; diversifying the road through this extraordinary passage of country.

DISTRICT.

The surface is broken in a most remarkable manner. The Stroudwater hills of Gloucestershire are not more diversified.

R 3

But

5.
DISTRICT.

But a still more extraordinary feature, of this little District is formed, by bays, creeks, and inlets, of the estuary of the Tamer, winding in among the wooded hillocks, in a manner which I have nowhere else observed, in this Island; but in perfect resemblance of the ordinary scenery, of the more broken margins, of the West India and Bahama Islands.

Nevertheless, the soil, where the Vallies have any width, is of a good quality; and even the tops of some of the swells are good arable land: so that, notwithstanding the Country, in some points of view, appears to be covered with wood, from the quantity which hangs on its steeper acclivities, it contains a considerable proportion of cultivated surface.

SURVEYING
A DISTRICT.

The Crops, and the System of Management, are the same as those which I have observed, in my former rides; so soon is the general outline of Management caught!

TAMERTON
FAIR.

A Fair held yesterday, at the sweetly sequestered Village of Tamerton Foliot, gave me an opportunity of seeing something more of the Livestock of the District.

The

The Cattle—provincially “Bullocks”—were mostly of the West Devonshire, &c. breed: namely, bred on the East and West banks of the Tamer: they are in general clean, well framed, and not ill fleshed: but there were few in a fit state to be *handed*.

5.

CATTLE.

Half a score remarkably fine oxen, eight or nine years old, of a size and form for anything which is required of oxen, stood as fat bullocks, for the butcher; but were barely forward enough for oil cakes, or other forcing food. If *fattened*, they would weigh eighty or ninety stones (of 14lb.) a bullock.

GRAZING.

Also two “Barnstaple heifers”—in a beautiful form, and as soft as moles, at two years old! and for this reason they were brought, here, to be sold to the butcher. What an error in practice! an error, I understand, which is prevalent through the Country: there are two on *this* Barton, I find, in the same predicament. Those which are of a nature to fat at two years old, are *murdered*! those which will not, are kept to breed from!

CATTLE.

BREEDING.

R 4

A few

5.

CATTLE.

—A few shorthorned and polled cattle were shown: different Gentlemen, it seems, having introduced them into this County: But they are fortunately disliked by the farmers; who prefer their own breed; and, prejudice apart, they have good reason for their partiality; their own being a much more eligible breed for a thinsoiled District. Their great defect is in milk, and perhaps this defect may have induced the Gentlemen of the County to bring in the Holderness breed; and, if they are kept merely for the dairy, no mischief may ensue.

SHEEP.

The Sheep were mostly mountaineers—provincially “Moor Sheep:” thin, scraggy, illformed creatures.

FAIRS.

The Fairs of this Country begin about eight o'clock, and last till about twelve.

JULY

6.

JULY 29. Hitherto, I have been looking round me, and ascertaining facts.

PRELIMINARIES OF
IMPROVEMENT.

1. I have traversed the Country, for a few miles on every side, and have gained a general idea of its outline of management.

2. I have studied a map of this noble Farm; traced its outlines; and surveyed, repeatedly, every field and parcel of it.

3. I have ascertained its present produce, or state of occupancy, by analysing, classing, and reuniting its various parts: thus bringing into one view the exact quantity of

Culturable lands,

Orchard grounds,

Planted groves,

Natural woodlands,

Hedges, lanes, &c. &c. &c.

4. I have tabled the SUCCESSION, or state of occupancy of each individual field in cultivation,—during the LAST FOUR YEARS.

5. In

PRELIMINARIES OF
IMPROVEMENT.

6.

5. In the margin of this table, I have noted the species and quantity of MANURE which each field has received, during that period; the term of the ministry of the present "Hine."

6. I have registered the ARRANGEMENT, tabled the crops and fallows, of THE PRESENT YEAR; so as to show, *first*, the number, name, size, and crop of each field; arranged according to their respective numbers in the map, which correspond with their natural situation in the farm: *secondly*, the fields, arranged agreeably to their respective crops; thus coming at the aggregate quantity of each; and, *thirdly*, the totals of these aggregates, to prove the truth of the analysis*.

7. A table of the LIVESTOCK, now on the farm.

8. The quantity of MANURE IN STORE.

9. The

* This method I struck out, during my practice in Surrey (see MINUTES OF AGRICULTURE IN SURREY), and have invariably followed it, in the different parts of the Island, in which I have practised.

9. The IMPLEMENTS, &c. at present in use.

10. The WORKPEOPLE now employed.

Until these particulars be ascertained, and spread out before the eye, so as to be referred to, in the most extemporary way, no man should presume to give orders, or suggest improvements, in husbandry. Nor, then, until he has considered well

The genius of the Country ; and

The locality of the given farm, as to markets, water carriage, &c. &c. ; also

Its natural characteristics, or fitness for corn or grass, dairying or grazing, &c. &c. taken collectively as a farm ; as well as

The aspect, soil, subsoil, and state of tillage, of its several parts.

But, having duly informed himself in these requisites ; and having assiduously caught, and preserved, the hints for improvement, which first impressions may have furnished him with, any man, having previously an adequate knowledge of the general subject, both in theory and practice, may venture to begin, with cautious step, to enter upon its improvement : being
how-

6.

PRELIMINARIES OF
IMPROVEMENT.

6.

PRELIMINARY
OF
IMPROVE-
MENT.

however, even then, careful not to derange the established machine of management; until one, which is preferable, be ready to replace it: beginning with its more glaring improprieties and defects, as they occur fairly in the course of management; at once, to save unnecessary expence, and to prevent unnecessary alarm,

7.

TILLAGES.

JULY 29. The lands of this farm are evidently much out of tith. The young leys are overrun with fern, and those of three or four years old are bare of grass. But no wonder; they have been mostly leys, I find, agreeably to the custom of the Country, after three successive crops of grain; for which not more than three or four plowings are usually given!

PLOW.

Indeed, were more to be assigned them, the Plow of the Country would be inadequate to the task of cleaning them. It is
the

the worst Swing Plow I have seen. The beam short and clumsy, and the body long and illformed, without a rise or wrest, to force open the furrow; the mold-board being set high above the keel or soal of the Plow; which operates, in loose ground, as the Kentish Turnwrest Plow; making a mark only, not opening a furrow*.

A foul piece of ground, intended for Wheat, but which I wish to cleanse thoroughly, for Barley the ensuing Spring, by way of making a beginning in the great work of purgation, I saw tantalized by this ineffective implement.

However, by fixing a wrest in the usual place, below the mold-board (the work of a few minutes), it cleared its way, and effected more in going once over the ground, than the same Implement, without this simple addition, would have done in going over

7.
FLOW.

IMPROVE-
MENT OF
FLOWS.

* The DEVONSHIRE PLOW resembles much, in general appearance, the Plow of the Herald and the Sign Painter: a circumstantial evidence, that it has heretofore been prevalent in the Kingdom; or that the Heraldic Figures of this Country, and the Plow of Devonshire, are equally of Norman extraction.

7.
IMPROVE-
MENT OF
PLOW.

over it almost any number of times; and this without vexing the Plowman, or alarming the Country, with "a new-fashioned Plow."

Being desirous, however, to get the Implement into a better form, and to adapt it to two Oxen or two Horses, I have embraced an incident, to gain a pretence for constructing a Plow, suitable to that purpose. A small plot of ground, which is so much encumbered with trees, that a team cannot work in it, and which has in consequence been "hand beaten" and "hacked over," to free it from the foul state in which it has long lain, was nevertheless capable of being plowed, with a small Plow, and a single Horse.

In constructing this little Implement, I suffered the Plow-wright to pursue his own beaten track, with respect to principal pieces and general construction; deviating chiefly in the proportion of the several parts; making the beam proportionally longer and the body of the Plow shorter, than in the Plow of the Country: adding, however, a wrest, and endeavouring to give the mold-

mold-board the proper cast. It fully answers the intended purpose; and bids fair to supersede the introduction of the Yorkshire Plow, for two Oxen or Horses. It has, indeed, one main advantage over any alien Plow: it is set to work and regulated, as the ordinary Plow of the Country; is indeed a Devonshire Sewl; and as such it is held.

Seeing this, it strikes me, that a similar kind of success may be obtained, in any District, by adopting the general construction of the fashionable Plow of the Country, whether it be the Wheel, the Foot, or the Swing Plow; only altering the proportions, and giving the OPERATIVE PARTS the requisite cast.

June, 1795. Men, who have never attempted to introduce improvements in Agriculture, may consider these sacrifices, to the prejudices of established customs, unnecessary and trifling; but those who have had experience, in this nice matter, will see their propriety.

7.
IMPROVE-
MENT OF
PLOWES.

A PRINCIPLE
OF IMPROVE-
MENT.

JULY

8.

SALMON
WEIR.

JULY 31. The SALMON FISHERY of the Tavey is appendant to this estate. The WEIR, which has been mentioned, is a work of considerable magnitude and expence. It consists of a strong dam of breastwork, ten or twelve feet high, thrown across the river, in a part where two projecting rocks serve happily as buttresses to the masonry; which is built somewhat compassing or archwise (but not regularly nor sufficiently), to resist the pressure and force of the waters, in times of flood; when they are collected, by the slopes of the Dartmore Hills, and sent down with extraordinary impetuosity. At one end of the dam, is a "weir house" or TRAP; on the principle of the Vermin trap, whose entrance is outwardly large, but contracted inwardly, so as to elude or prevent the escape of the animal which has taken it. It is remarkable,

remarkable, however, with respect to salmon, that although the entrance is by no means so narrow as to prevent even the largest from returning, it is believed that there is no instance of those which have once entered, quitting their confinement, though they may have remained in it several days. A circumstance, perhaps, which can only be accounted for, in the natural propensity, or instinct, which directs them against the stream, and will not suffer them to give up any advantage which they may have gained; the ascent into the trap being an effort of difficulty: in this case perhaps too great.

On the higher side of the trap (which is some twelve or fifteen feet square on the inside), opposite to the entrance, is an opening or sluice in the stone work,—or rather the rock,—as a passage for the water. This opening has two lifting floodgates: the one close, to shut out, occasionally, the whole of the water; the other a grate, to suffer the water to pass, and at the same time to prevent fish of any considerable size from escaping. When the trap is set, the

VOL. II.

S

close

8.

SALMON
WEIR.

8:
SALMON
WEIR.

close gate is drawn up, with an iron crow : thus suffering the water to pass through the house. On the contrary, to take the fish which have entered, the close gate is let down, and the trap is presently left in a manner dry.

It is observable, that the narrowed entrance of the trap is judiciously placed, somewhat above the floor ; so that before the salmon are seriously alarmed by the fall of the water, it has sunk below the mouth of the trap, and their retreat the more effectually cut off ; for by following the water, near the floor, they are led away beneath the tunnel : which, like the open floodgate, &c. is made of strong wooden bars, open enough to permit the passage of the water, but not that of the fish.

The top or covering of the trap is a floor of planks, nearly level with the top of the weir ; on the lower side of which the trap is, of course, situated.

Some days ago, when the water was unusually low—provincially and not improperly “ small ”—the whole river passed through the weir house. But the recent rains

rains have swoln it to a tenfold size. The water now pours over the weir, in a dense, broad sheet; smooth, and glassy above; but furrowing as it descends; and producing, in its fall, a white foaming whirlpool; the regularity of the fall being broken, on one side, by the torrent, rushing down the steep descent from the sluice, and, on the other, by the margin of the river bursting its way over the native rock,—a pleasing object is produced; while the extreme recluseness of the situation,—the wild coppice wood on the one hand, and the high grown, impending timber on the other,—add to the picturable effect of the scene: which, in a mild evening after rain, is still heightened, and rendered more interesting, by the animating and beautiful accompaniment of salmon, displaying fetes of futile agility;---throwing themselves far out of the water, in endeavouring to surmount the cataract; or struggling, with more fatal zeal, to reach the treacherous hold, from whence there is no return.

The species of fish taken at this weir are salmon, salmon peel — provincially

S 2

“pail,”

8.

SALMON
WEIR.

RIVER FISH.

8. "pail," and, at some certain seasons, a few trouts.

NET
FISHING.

But the principal part of the produce of this fishery is taken by NET FISHING. The river, for near a mile below the weir, is broken into rapids and pools, some of them very deep. Seven or eight of these pools are adapted to the seine or draw net, which is drawn once, or twice a day, by four men: with horses to carry the net, and the fish caught; and with dogs to convey the end of the rope across the water, where it is too deep or inconvenient to be forded.

The fishing season commences, in *this* river (the Tavey), the middle or latter end of February (but on the Tamer not until several weeks afterward!), and closes in October or November; when the weir is thrown open, and the fish, afterward, suffered to go up to spawn.

Presently after a flood, and when salmon are abundant, ten or twelve are frequently taken at a draught; sometimes more; upwards of a hundred, it is said, were once drawn to shore.

No

No wonder that a fishery thus productive, and lying at a distance from any habitation, should be liable to the depredations of POACHERS: especially as the river forms the boundary of a mining parish, notorious for its pilferers. They have been known to come down in bodies, like the game poachers of Norfolk; bidding ten or a dozen men defiance.

The net poaching is done, chiefly, in the night; while the river abounds with fresh water. But, in the day time, when the water is dead and clear, the poachers are not inactive; then using the spear, which they throw with dexterity; and, by this practice, are known to carry off numbers.

Nor does daylight deter them, wholly, from net fishing, when the water is favorable and fish in plenty. Yesterday, in passing, with the Hine and his son, through the meadows which margin the river, a party of three or four net poachers were discovered. They fled, on our approach; taking refuge among the underwood of the opposite banks; leaving behind them a net which has doubtless cost them the profits of many a month's illicit practice.

9.

REMARKS
ON RAIN.

AUGUST 1. The RAINS of this Country take a singular appearance : at least, have done so, in the commencement of the heavy showers, which have followed each other with little intermission, during several days past. They come on, in a sort of mist, or fine rain : not of uniform density ; but driving before the wind, in perpendicular laminæ, with void interspaces ; resembling more, in their proportions and general appearance, combs of honey in the hive, than any other object I can bring to my mind.

These rains are brought by the Southwest wind ; are the produce of clouds arriving from the sea, and, being laid hold of by the high lands of this District, are checked in their course, and overtaken by those which follow ; thus becoming more and more dense, until the heaviest rain is brought on.

On this theory, which is verified by fact, Cornwall and this Western and intermountainous

mountainous District of Devonshire, receive more rain than the Vale of Exeter; and this a greater quantity, than the more central Districts of the Island.

I have repeatedly observed the high lands of Maker and Mountedgecumbe, which rise full to the view, from the higher grounds of this demesne, arresting a cloud on its arrival from the channel; appearing to hold fast its lower limb, while the upper parts seemed eagerly hastening to the Dartmore Mountains; and while the surrounding Country was enjoying the finest weather.

The singular appearance, remarked above, may perhaps be accounted for, in its being the first stage of precipitation of the vapors which previously formed the unbroken cloud, or uniform mist. The vertical position of the laminae apart, the appearance very much resembles that of the first breaking of the cloud, produced by solutions of calcareous matter and fixed alkali; into the flocks which form, and follow each other to the bottom of the flask.

9.

REMARKS
ON RAIN.

10.

DISTRICT. AUGUST 3. Rode to the VIRTUOUS LADY; a mine, situated on the banks of the Tavey, a few miles northward of this place, amidst the wildest scenery which steep-sided vallies, rocks, woods, and bleak heaths, can well give.

ORCHARDS. Not one new or interesting idea, in the Rural Economy of West Devonshire, struck me, in this stroll; except that of paring off and subverting, apparently with a Breast Plow, the "spine" or rough sod of an orchard: not with a view of burning it; but for the purpose of letting it rot, as a "dressing" or manure to the roots of the trees! a practice, I understand, which is not unusual. In this case, the orchard is rocky; many stones, or points of rock, appearing above the surface.

Inverting the sward may not operate more as a manure, than as, by checking the vegetation of the grass and weeds, it may
give

give additional air, moisture, and freedom to the fibrils of the roots of the fruit trees.

10.
ORCHARDS.

Nothing, indeed, could well effect this purpose better. For the inverted turf being laid flat, and evenly over the surface, the shoots from the roots which are not destroyed by the cutting, may be smothered, or checked, by the covering.

II.

AUGUST 7. I have, at length, got a WHIP-REIN PLOW fully into its work, in the field. See MIN. 7. PLOWING.

The first day, the horses were led. The second driven, with reins; by a youth, walking at the side of the plow; as much to make the horses tractable, and render the new operation less irksome to the plowman, as to teach the young man the use of the reins, in harrowing; which is here two persons work; even though but one horse were employed.

This,

11.
 PLOWING.

This, the third day, the horses are become tractable; and the plowman is guiding and driving them himself: making, with two sorry rips, and the light plow above described, as good work, as six oxen are making, in the same field, and the same work, with the clumsy tool of the Country.

INTRODUCING
 WHIP REINS.

IN FUTURE,—let two plowmen assist in the introduction of whip reins, holding and driving alternately: thus, while the horses are rendered manageable, the plowmen will learn the use of the reins.

12.

COPPICE
 FENCES.

AUGUST 8. A great defect and inconvenience of the MOUND COPPICE FENCES of this District, I see, is their being liable to be torn down by stock, whether cattle or sheep, scraping away the base of the mound, and letting down the sides, perhaps in wide shoots. The soil thus shot down is a step to greater mischief; and, if not stopt, a passage is made, across the mound.

To

12.
COPPICE
HEDGES.

To prevent these mischiefs, many "hedges" of the District, and particularly of this estate, have been faced with stone:—the ordinary slate rock of the country; mostly set on-edge, or rather on-end; which, by the people of the Country, is considered as preferable to laying them horizontally, in the mason's manner. Most of the fences of this farm have been faced with stone, on both sides; at an expence, from first to last, equal perhaps to the fee simple value of the land. For, as the roots in the body of the mound swell, the facing is of course bulged out, and is at length thrown down; thus leaving the fence, if not timely repaired, in a worse state than those which have been left free for blackthorns, and other brushwood, to grow and defend the sides of the banks.

Where this brushwood has got hold, and outlived the overhanging, and drip, of widespreading coppice wood, growing on the top of the mound, the sides are secure; for being cropped and stunted by pasturing stock, they have grown, in many parts, thick and impervious: and it is extraordinary,

12.

COPPICE
HEDGES.

traordinary, that the idea of planting or encouraging such brushwood, and striking off the overhanging topwood, to prevent its being checked in its growth, should not have taken place; instead of that of facing the sides with stones; fetcht, perhaps, some distance on horseback.

GUARDING
HEDGE
MOUNDS.

Seeing the evident propriety of this treatment, I have been applying it to a hedge, of three or four years growth, from the last cutting; as a specimen, or pattern, for the remainder of such as will admit of its application.

The blackthorns and other shrubs, which grow at the foot of the mound, and on its sides, I have endeavoured to spread, over the face of the mound; fastening them, there, with hooked pins, as fruit trees to a wall: first clearing the brambles and weeds which grew before and behind them; and, afterward, trimming off the loose spray on the face of the whole: whether thorn, furze, bramble, or briar. Finally, with a long handled hook, striking off the overhanging boughs of the coppice wood; leaving a regular face, as even as the live
stuff,

stuff, at present, will admit of: not perpendicular; but leaning somewhat inward, towards the middle of the fence; so as to give every twig, from the bottom to the top, light, air, and headroom.

12.
GUARDING
HEDGE
MOUNDS.

An advantage of this operation, beside that of putting the fence in the way of improvement, is that of freeing the borders from weeds and brambles, and from the drip and shade of outhanging boughs.

13.

AUGUST 11. Rode to the head of
"PLYMOUTH LEAT."*

PLYMOUTH
BROOK.

THIS ARTIFICIAL BROOK is taken out of the river MEW, towards its source; at the foot of Sheepstor Tor; in a wild mountain dell.

I expected

* *Leat*, *Late*, or *Lake*, as it is sometimes pronounced, is perhaps a corruption of *Lead* or *Conductor*; being applied, I believe, to any artificial channel for conducting water.

13.
PLYMOUTH
BROOK.

I expected to have found an accurate gauge, to regulate the quantity of water ; agreeably to the act of parliament, under which it is taken. But in this I was disappointed. The Mew, itself, is there but a moderately sized brook. Across it a weir or dam is formed, of large rough stones, with which the bed of the brook is thickly strewed. A paltry, ill shapen, wooden frame or floodgate, with a gully underneath it (through which most of the water passes), receives about half the waters of the Mew ; now lower than usual, but not at their lowest. In the dam is another floodgate ; lying lower than that of the made brook, to draw off the water from this, during repairs.

The channel of the Leat differs, in dimensions, according to the ground it is led over. Across open plain ground, it is ten or twelve feet wide, with flat sloping banks ; the water running six or eight inches deep, according to the descent ; which is generally sufficient to make it ripple gently over the pebbles, with which its bottom is strewed ; forming a living stream, a lovely brook.

The

The chief difficulty, in executing this valuable work, was in carrying it round the point of an almost perpendicular rock ; where a wooden aqueduct was first constructed ; but where a more substantial Channel has since been formed, with masonry.

13.
PLYMOUTH
BROOK.

It is observable that the mill of Mavey, situated beneath this brook, and fed by the same source, the Mew,—and about whose waters, for want of accurate and substantial regulators, a perpetual contention is kept up,---is fed by an artificial channel, perfectly resembling the Leat under description. The mill of Milton, near this place, is supplied with water, in a similar manner. And, it is highly probable, these Mill Leats furnished the designer with the idea of the Plymouth Brook *.

MILL LEATS.

Whatever fortunate thought gave rise to it, its utility is great : not only in supplying a populous town with water ; but in
watering

MADE
BROOKS.

* In some part of the Mill Leat of Mavey, a stone, I was told, is placed, with the date, 1600, upon it. The artificial Brook, or New River, of London was executed about 1610.

13.
MADE
BROOKS.

watering a chain of uplands, fifteen or twenty miles in extent. The gratification experienced in falling in, abruptly, as frequently happens, with so ample a stream, in places where such an object is the least expected, yet where it is most wanted, is of a singular and superior kind.

How many situations, in this Island, wanting such relief, might have it in a similar way.

Where a sufficient quantity of water can be had at the source, much of the cost might be repaid, by letting off branches, to the adjacent country.

Upon Roberough Down, a rill is taken out of the Plymouth Brook, for the use of a Gentleman, who lives some two miles off, close by the banks of the Tamer! This rill not only supplies his house, but furnishes water to pasturing stock, in its way.

In this case, the quantity of water is accurately regulated, by a perforated stone, set on-edge, in a sort of stone trough; the aperture circular, and about three and a half inches diameter: furnishing a sufficient supply,

supply, if frugally managed, for a hamlet or village.

13.

MADE
BROOKS.

But the ancient rights of WATER MILLS are bars to improvements of this nature, as well as to the watering of lands: rights, however, which might, *now*, be alienated without excessive inconvenience to the community; windmills and steam engines rendering them no longer *necessary*; though, in some situations, a few might still be useful.

14.

AUGUST 12. Rode to PLYMPTON, in the SOUTH HAMS of Devonshire.

The scenery about Plymbridge is sweetly reclusive; forming a happy contrast to the open view from Lord Boringdon's arches; from whence Plymouth Sound and Harbour, with the interesting scenery which furrounds them, are seen immediately under the eye.

DISTRICT.

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T

A broad

14.

DISTRICT.

A broad view of the South Hams is also commanded from this proud point.

The Country immediately below it, about Ridgeway and the Plymptons, is singularly broken ; yet most of it well soiled.

PLYMPTON
FAIR.

A Fair, of some repute, led me to Plympton, this morning. But it fell short of my expectation. About a hundred and fifty head of cattle, chiefly cows and calves ; with a few half-fat oxen, and less than half-fat cows. Also a few pens of sheep ; mostly poor thin-carcafed animals. Altogether a mean collection.

PLYMPTON.

The Borough of Plympton is most enviably situated. The climature mild, almost, as that of the South of Europe. The scenery around it delightful ; and the soil of a superior quality ; yet, in its nature, dry and clean. Provisions of every kind abundant and cheap. The Town, or rather large genteel Village, is itself neat ; its inhabitants respectable ; and it is situated near a great public road, without being incommoded by it.

AUGUST

15.

AUGUST 12. (See MIN. 12.) Some older hedges, on the sides of harvest roads, whose boughs were grown too large, and reached too high, to be cut from the ground, I have had "pared" in the following manner.

TRAINING
HEDGES.

Put two oxen to a waggon, and two men into it, with hooks of different lengths; placing the waggon close to the hedgebank. In this situation, the men were level with their work; cutting out the larger boughs, with common hedge bills, and striking off the spray, with lighter tools; the waggon proceeding with the work.

In this way, the two men cleared, in the course of yesterday afternoon, not less than a hundred rods, sufficiently to prevent the corn from being thrashed out, or torn off the harvest waggons, by the outhanging

T 2

boughs.

15.

TRAINING
HEDGES.

boughs. A dispatch which could not have been obtained in any other manner.

Even in the training of younger hedges (of this Country), a waggon might be employed with advantage.

16..

RECLAIM-
INGLAND.

AUGUST 13. CLEARING ARABLE LANDS FROM STONES. The soils of this District are much incommoded with stones of different kinds; but chiefly with the slate rock, of which the Country may be said to be formed; and a species of chrystal—provincially “whitaker”—which is frequently met with in large blocks, either entire, or partially incorporated with the slate rock.

A field, now under fallow,—which has long been noted for fowl-breaking, I am clearing in this way. The plowman carries, in the body of his fowl, a parcel of small rods; and, where he finds a stone, sets up
one

one of his marking sticks. Two men follow, with shovels, mattocks, and crows, raising the *stones*; and baring the *rocks*, to be raised, at leisure, by men accustomed to quarry work. Thus, at a comparatively trifling expence, the land is freed, plow-furrow deep, for ever, from obstructions: not only of the plow, but of harrows; which would now be seen riding upon flat stones, from one end of the field to the other, were not a person employed to follow, and release them from so awkward and unprofitable a situation: leaving, however, the stones upon the land; lest this part of his employment should be wanting, in future.

16.

RECLAIM-
ING LAND.

17.

AUGUST 27. CLEARING FOUL LANDS, (See MIN. 7.) This and another piece, still fouler, and in a worse state of tillage, I have treated, and intend to treat, in the following manner.

RECLAIM-
ING LAND.

About a month ago, one of these fields, then in a state of loose broken ground, was

T 3

laid

17.
RECLAIM-
ING LAND.

laid up into narrow ribs (the gardener's trenches) by a half plowing; with a wrested plow, and with the stern set TEN INCHES wide; forcing up the ridgets, as high and sharp as possible; in order to destroy the root weeds, by drought, and by breaking their field of pasturage; and to give the seeds of weeds an addition of air and surface to promote their vegetation.

About a week ago, the first-plowed part was harrowed across the ribs, with long-tined harrows;—levelling the surface completely, and following them with a roller and finer harrows, hung behind it: thus grinding down every clod, and effectually destroying every seedling weed which had vegetated.

TILLAGE.

The surface is now thickly set with another crop of seedling weeds,—which I am turning under by ONE DEEP PLOWING, across the former ribs, and in narrow plits, but with a BROAD SHARE, and with a STERN TWELVE INCHES WIDE; thus moving every particle of the soil, about TEN INCHES DEEP (some inches deeper, perhaps, than it has ever been plowed before),

before), leaving the surface rough and cloddy.

17.

Over this rough surface, I am spreading a moderate dressing of yard dung; to be dragged and rolled and harrowed, until the dung be effectually incorporated, with the fresh raw soil, brought up; thereby to meliorate it, and to *force* the seeds of weeds, with which it has, no doubt, been amply supplied, century after century.

MANURING.

The weed seeds having spent themselves, and the crude soil having received the influence of the atmosphere, the dressing will be turned in, with a mean-depth or somewhat shallow plowing; and the surface be suffered to remain in the rough state, in which the plow leaves it, during winter.

FALLOWING.

In the spring, as soon as the clods have thrown out their seedling weeds, and the weather will permit, the surface will be ground down to powder, to provoke the remainder to vegetation; and, in due season, be sown with barley and ley herbage.

Thus, for the loss of ONE YEAR'S RENT, these fields will probably be benefited for twenty years to come.

T 4

The

17:
EIGHTEEN
MONTHS
FALLOW.

1794. The success has answered the fullest expectation. The field which was managed more immediately under my own eye, is, I am of opinion, five pounds an acre better for the operation; reckoning on twenty years, from the time of performing it.

It is observable, that, in every case where circumstances will allow it, an EIGHTEEN MONTHS FALLOW should be broken up, in autumn, or early winter, by a rib plowing; suffering it to lie, in an exposed state, during winter. This, besides employing the winter's frosts in the great work of purification, forwards the business of the ensuing summer, and renders the whole operation a matter of leisure and convenience; and, in the end, COMPLEAT: putting the soil in its most profitable state of exertion, for a length of years. Under proper management and with the assistance of FALLOW CROPS, Lands, THUS EFFECTUALLY RECLAIMED, may not require a repetition of the operation, for half a century afterwards.

AUGUST

18.

AUGUST 28. A field of twenty-four acres was sowing with Turneps, when I arrived here ;—with too little tillage, too little seed, and some of it with dung much too long ; the harrows drawing the seed into stripes and bunches. The consequence is, the crop is irregular, and the few plants which appear are nearly suffocated in wild Mustard, and other weeds.

HOING
TURNEPS.

Some light hoes were ordered to be made, from old fithe blades ; and six of them were put into the hands of women, who had never hoed, and one into the hands of a man, who had.

The directions, in going the first time over the ground, were, to thin the clusters or bunches, and to check the weeds ; without attempting to set the Turnep plants out, singly, or at full distances ; and even, in doing this, to proceed slowly at the outset.

Hitherto,

18.
HOING
TURNEPS.

Hitherto, they have performed this work better than was expected. Indeed, by adhering to the rules, here laid down, Turnep hoers will spontaneously grow out of them. By setting off slowly, and not attempting too great nicety, at first, the employment becomes pleasurable, and the eye and the hands are imperceptibly taught the art; especially if the greater errors which arise be, from time to time, pointed out, by one who is conversant in the operation.

They have now begun to go over the first-sown part, a second time; setting out the plants singly, and at due distances; namely ten to twelve inches apart (the hoers being eight inches long); except where two plants stand near each other, in a vacant space; in which case, both plants are permitted to stand*.

Hoing Turneps, with eight inch hoers, made from sithe blades, is moderate work for women (such hoers are light and pass freely

* For more particular remarks and directions, respecting this operation, see MIN. ECON. Vol. II. P. 198.

freely through the soil) ; and, by proceeding on the principles here adopted, any woman, with an eye and hands, may be soon taught the art: will, in one full season, become a sufficient Turnep hoer.

How eligible, in Countries where women are not employed in reaping, to teach them the use of the Turnep hoe. What avails the slowness of their work, the first season, compared with the introduction of so valuable a practice: especially to a large occupier; and, still more, to a man of large estate.

18.

HOING
TURNEPS.

19.

SEPTEMBER 1. It is customary, here, to shoe working oxen; although they are rarely employed upon the road. The stoniness of the soils, and rockiness of the lanes and driftways, may account for the practice.

SHOEING
OXEN.

In the form of the shoes, or the method of setting them on, I see little new. A few parti-

19.
SHOEING
OXEN.

particulars of practice, nevertheless, require to be noticed. Having been cast, or thrown, and his legs bound together, in the usual manner, the animal is forced nearly upon his back, and his feet hoisted up to a convenient height, by means of a forked pole, some five feet long; the fork taking the bandage which binds the feet, the other end being fixed firmly in the sward, upon which they are usually thrown. This simple contrivance gives great firmness, steadiness, and conveniency to the operation.

That the individuals may be the more conveniently laid hold of, and trammelled, the team are driven to the place of shoeing, in their yokes, and hung together with chains, the hindmost chain being fastened to a large root, or stool, in the hedge; by the side of which they are usually placed; in order to prevent their running off, on seeing one of their companions thrown down and roughly treated, in their fight, —immediately under their eyes!

Today, the remaining three of a team, shoeing in this extraordinary way, being alarmed

alarmed and rendered savage, by seeing the savage treatment of their comrades, broke from their hold; ran off; the pair throwing down the single ox encumbered by his yoke;—dragged him;—broke off one of his horns, with its core close to his head; cut the sinew of his fore leg, almost through, with one of the hooks; and have thus *entirely spoilt him*.

Some means of facilitating the shoeing of oxen are much to be desired. I am of opinion that were rearing calves, which are intended for work, accustomed to have their feet taken up, and their hoofs beaten with a hammer; and were a repetition of this practice to take place, in the winter season, when the steers are in the yards, or in stalls, they might afterwards be shod as horses.

Working cattle should also be accustomed, from their earliest age, to be driven and led about, singly; should be wholly reclaimed from a state of wildness; as working horses are.

The ox, under kind and generous treatment, is easily familiarized, and rendered docile.

19.

SHOEING
OXEN.WORKING
CATTLE.

20.

GENERAL
WORK.

LONDON, 1794: Having, in the summer of 1790, spent some months at Maidstone, in Kent; to register the HOP CULTURE; and the other branches of Rural Economy; as they are practised in that fertile District; and having, in the Spring and early part of the Summer of 1791, paid some attention to the Farnham practice of cultivating hops, as well as to that and other Rural Subjects, in West Sussex; I judged it expedient to return to Farnham, early in September, in the same year, to be present at the picking and curing; in that District; in order to enable me, the better, to draw up a practical account of the management of the Hop; in a general account of the Rural Practice of the SOUTHERN COUNTIES; which I hope soon to offer to the Public.

IMPROVE-
MENTS
SUGGESTED.

Before I left Buckland, I digested the ideas which I had collected, respecting the present

present state and improvement of its charming demefne. Many of those ideas related, of course, to private concerns; many of them appear, in the foregoing Digest, of the practice of the District at large; and others, in the preceding Minutes. Some few of them, however, have not yet been introduced into this Work; and these are inserted, here. For what applies to the Barton of Buckland is more or less applicable to the lands of the surrounding Country, and may furnish hints for those of other Districts.

25.

IMPROVE-
MENTS
SUGGESTED.

This, in soil and surface, is properly a SHEEP FARM. Sheep, Turneps, Barley, temporary Leys, and Wheat, ought certainly to be considered as PRIMARY OBJECTS. The DAIRY seems to stand second; as being, in this situation, profitable in itself; and as a source of working cattle. But no part of it appears to be well adapted to the GRAZING OF CATTLE,

OBJECTS OF
HUSBAN-
DRY.

20.

OBJECTS OF
HUSBAN-
DRY.

TLE, which presents itself as a subordinate object; to be confined merely to the aged cows and oxen, which the farm itself throws off. A main object, on many accounts, is to keep the manager at home. Hence, adopt a course of tillage, suitable to the soil and situation; with livestock suitable, in species and proportion, to the crops: adhering as closely to this outline of management, as seasons and circumstances will permit. Under these regulations, the Hine would have little to take off his attention from the interior operations of the farm; except the disposal of its immediate produce. He would have no riding about the Country to buy stock, nor any trifling away of his time, in selling them.

Farming and jobbing can seldom be united, with profit: even by a Principal; much less by an Agent.

RIVER
BREAKS.

Some RIVER BREAKS are wanted to defend the meadow lands. Stones, not timber, appear to be the proper materials for these Breaks.

1794.

1794. Hitherto, piles and planks had been used, to confine the rapid Tavey within its channel; much valuable timber having been used, from time to time, in "weiring;" while the bed of the river is strewn with stones, fit for this purpose.

20.
RIVER
BREAKS.

I had one constructed, as a specimen, in the most difficult situation;—immediately in front of the Salmon Weir, and within the reach of its whirlpool, in times of floods; at one fourth of the expence which a timber break would have cost. It is built with *dry stones*, collected from the river bed.

The permanency of this loose stonework depends, entirely, on the *principle of construction*. The face of the Break is every way bulging towards the force of the current; which acts upon it, as superincumbent weight on an arch. The base line, some fifteen or twenty yards long, is the segment of a circle, with its outer or convex side to the water. The wall, from four or five, to two or three feet high, is carried up *battering*, very considerably, from the stream; not with a straight line,

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but

20.

/ RIVER.
BREAKS.

but somewhat convex, and rounding off at the top,—until it forms nearly a horizontal paving. The stones are laid, with their larger ends inward; and not horizontally, but dipping, in such a manner, as to lie square with the face of the wall; which is thus placed in the posture of *falling*, towards the bank of earth, that was rammed in firmly behind, as the wall was carried up. The whole to be filled in, level with the adjoining meadow; thick turf being firmly laid, in continuation of the pavement; that the water, when it overflows the meadow, may pass smoothly over the break, and thereby prevent the adjoining sward from being torn up, by a disturbed current.

A violent flood displaced some of the uppermost stones, for want of the ground being filled up, and properly finished, behind them; and the eddy of the Weir pool scooped away part of the gravel from the foundation, so as to endanger it; until large stones were thrown against it, for its defence.

Where there is a proper choice of stones;
and

and if the top and foundation be from time to time attended to; a river Break, built on these principles, may endure for a length of years.

The present dairy cows, some few excepted, accord ill with the Barton of Buckland: which is entitled, in every point of view, to the finest breeds of livestock the Island at present possesses. The degenerate breed, now upon it, are unprofitable, even as dairy stock, and are altogether unfit, as molds for working oxen; the breeding of which ought to be a principal object in keeping them. Some of the oxen, the descendants of the old stock of the farm, are almost unexceptionable: their size being their principal deficiency. The present degeneracy of the cattle appears to have arisen out of a wrong principle of management, of the late times; namely, that of selling everything inclined to fatness, so as to fetch money; and buying in anything for cheapness, without regard to specific quality*.

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* This error in practice has been mentioned before; but it is of so treacherous and mischievous a nature, it cannot be too often reprobated.

20.

RIVER
BREAKS.BREED OF
CATTLE.

20.

SALMON
FISHERY.

The Salmon Fishery, at present, is a nursery of Poachers; owing not so much to the remoteness of its situation, with respect to the house, as to the skreens, of wood, which now rise on either side of the river; and hide them, in a great measure, from detection. Under its present management, it is an object worth their attending to, and of course draws them off from honest, but less profitable, employments. The most eligible course to be taken appears to be that of throwing difficulties in their way; so as to make it not worth their attention. To attempt to prevent them by force, especially while the mines remain open, would evidently be imprudent.

Perhaps, the men, who are employed in drawing the net, should be paid not by the tide, or the number of times they draw it, but by the number, or weight, of the fish caught: thus uniting their own interest with that of their employer. Even night fishing might, by this means, be considerably checked; not so much by keeping watch, as by every pool being fished *carefully*, before the night came on. Now, if the net be wetted, their hire is due.

Or *perhaps* destroy the net-fishing altogether; by placing obstructions in the pools; and depend solely on the Weir: which, if properly regulated and duly attended, would perhaps receive all the fish which enters the river; or, in much probability, a far greater number, than are now legally taken, by the weir and nets jointly. Giving a weir man a fixed proportion of the produce,—for his attendance during the fishing season,—for seeing that the pools were kept guarded to prevent net fishing,—for keeping down the skreens,—and for attending daily and hourly, during dead water, to prevent spearing,—would, in this case, be requisite.

At present, the Fishery is either neglected, or it interferes, unprofitably, with the ordinary business of the Farm.

On whatever principle a Fishery of this kind is conducted, the persons employed in it ought to be rewarded, in proportion to the quantity taken; especially when they are not immediately under the eye of their employer.

20.

SALMON
FISHERY

21.

DISTRICT.

OCTOBER 30. Rode to MILTON ABBOTS; by TAVISTOCK and LAMERTON.

Some charming grasslands about Tavistock; still better before Lamerton; and yet more excellent, at Milton Abbots.

GRAZING.

Considerable herds of fine oxen, and good fatting cows, are now in these grounds: some of which are still full of grass;—highly colored, and apparently of a superior quality.

GEOLOGY.

How extraordinary, that Plots, such as these are, should be scattered in so bleak and barren a Country. Between Lamerton and Milton, an unproductive Heath intervenes; the rich lands of the latter being nearly surrounded with such Heaths, and overlooked by Mountains: the situation inhospitable in the extreme. The fertile lands of Lamerton and Tavistock are insulated in a similar manner.

But

But the extent of these lands, collectively, is small: and in a survey of the Rural Practice of the West of England, they are rather a subject of admiration, than of importance,

21.
GEOLOGY.

22.

NOVEMBER 1. The ROUGHCAST work of this District is executed in a superior manner; being not only durable, but pleasing to the eye.

COATING
BUILDINGS.

Some lately done at Ivybridge is equal, in beauty, to dressed stone work. Mr. Stapleton's house, in this neighbourhood, done in a similar way, has now stood upwards of half a century; and, excepting at the immediate foundation, and beneath some of the windows, where water has been suffered to lodge, the whole remains as firm as when first done; appearing to have acquired a stonelike texture. In both these cases Chrystaline gravel has been used;

U 4

and

22.

COATING
BUILDINGS.

and both of them are false-jointed, to resemble dressed stone work.

An intelligent workman, whom I accidentally conversed with on this subject, suggested an admirable *theory* of the operation of roughcasting; making an accurate distinction between this and Stucco work.

STUCCO being laid on, *in a state of paste*, more or less air is unavoidably shut up,—let it be ever so well worked; and the very expansion and contraction of this air, by heat and frost, is sufficient to break the texture of the Stucco. Beside, let the working be done ever so carefully, cracks, though not evident to the eye, will be formed in drying; and if, by means of these microscopic fissures (or of those formed by the expansion and partial escape of the confined air), water take possession of the air cells, the perishing and peeling become natural consequences.

ROUGHCAST, on the contrary, being applied, *in a fluid state*, and by little and little, fills up every pore, and cranny in the face of the wall; as well as in the face of
every

every succeeding coat; which being suffered to dry, before another coat is added, the cracks, if any take place, are filled up; and *deep* ones, of course, are effectually prevented: whereas, the cracks of Stucco necessarily reach through the coat.

STUCCO evidently partakes of the nature of cement used, in a state of paste or mortar; LIQUID COATING, of cement poured into the wall, in a state of grout.

STUCCO is analogous to the materials of a dam, or the bank of a canal, formed with earth, in a state of paste: ROUGH COATING, to the puddle of Canal Makers: to loam intimately mixed with water, and permitted to subside in a liquid state: thus preventing air cells; and forming a close, homogeneous mass.

22.

COATING
BUILDINGS.

23.

DECEMBER 10. TURNEPS. (See MIN. 18.) Several acres of these Turneps were, in my absence, omitted to be hoed. I found

CHARLOCK,
AS FOOD OF
CATTLE.

23.

CHARLOCK,
AS FOOD OF
CATTLE.

found them, overgrown with Charlock,—a yard high, and as yellow as a Rape field; the seeds of the lower pods being fully formed. Part had been drawn by hand, according to the custom of the Country, and thrown in heaps: an expensive and wasteful practice.

A few cart loads were ordered to be mown,—high enough to prevent, as much as possible, the injury of the Turneps,—and low enough, to get beneath the pods of the Charlock; and were strewed over an adjoining pasture ground.

Sheep eat the tips of the leaves of the Turneps, partially cut off by the fith; and also the leaves of the Charlock; but left the pods and the stalks of the latter, in a great measure untouched.

Cattle, however, preferred the Charlock; eating the whole up, clean; before they picked up the Turnep leaves.

Four or five acres kept about twenty head of young and store cattle, near three weeks. Had the food been given to them regularly, and more frugally than it was, it would have kept them, sufficiently as
store

store cattle, a month. This, added to the saving of the expence, compared with that of drawing, cannot be reckoned at less than twenty shillings an acre.

23.

CHARLOCK,
AS FOOD OF
CATTLE.

They eat it so voraciously, that one or two of them were repeatedly blown, or sufflated, by it : and a heifer failed so much, while at this food, that it was thought right to have her butchered. On opening her, however, her disorder appeared evidently to have been of some duration ; a part of her intestines being in a state of decay. The pungency of the Charlock might, or might not, have stimulated her disorder.

Be this as it may, it is sufficiently proved, that healthy cattle may be kept on Charlock in pod, with safety and profit*.

DECEM-

* Part of it, the rough Charlock or WILD MUSTARD (*Sinapis Arvensis*) ; part, the smooth Charlock, or WILD Rape (*Brassica Napus*).

24.

CABBAGES.

DECEMBER 10. The only useful idea I have been able to collect, from the late manager of this farm, is his method of cutting garden Cabbages.

Instead of clearing the stalk or stem from the lower leaves, and cross-slitting the crown or top of the stalk, in the usual manner,—he cuts out the body of the Cabbage, only ; letting all the open, large, spreading leaves, remain upon the stem.

The consequence is a second, and perhaps a third, crop of *Cabbages* ; not one, but many, upon a stem ; forming, by the third crop, a Cabbage tree. There are now, in the garden of this place, several stems, with four, five, or more well-sized table Cabbages on each : and, applied to field Cabbages, which are cut early, the principle may be a good one. The old leaves continue to draw up the sap, until
vigorous

vigorous shoots are formed ; when they are observed to droop, decay, and fall at the foot of the plant ; being, perhaps, in every stage of their decay, useful to the young progeny ; in shading the ground, in keeping down the weeds, and in furnishing a supply of mephitic gas to their rising offspring : advantages which are lost, in the ordinary method of treatment. Many of the plants are killed by the sudden check of the sap, and those which survive, throw out numerous, and of course, weak shoots ; few of them swelling to any size, or taking the Cabbage form.

24.

CABBAGES.

25.

DECEMBER 18. A SOCIETY of AGRICULTURE, I understand, is now forming in the South Hams. In my late excursion, through that District, I heard of a "Plowing Match," at Kingsbridge, and another, at Ivybridge ; where Meetings of Country Gen-

AGRICUL-
TURAL
SOCIETIES.

25.

AGRICUL-
TURAL
SOCIETIES.

Gentlemen, and substantial Yeomen, distributed REWARDS TO GOOD WORKMEN: a rational Institution, which, while it continues to adhere to this principle, cannot fail of proving beneficial to the Country.

If mere PRECEPTIVE SOCIETIES, without the power of EXAMPLE, IN THEMSELVES, can be materially serviceable to the advancement of Agriculture, their object, I am of opinion, ought to be that of ENCOURAGING GOOD HUSBANDRY, among PROFESSIONAL MEN: of searching for SUPERIOR HUSBANDMEN; and distinguishing them, in such manner, as to create a spirit of emulation; and of assisting such distinguished Managers to procure the requisite means of improvement. Thus placing them in a conspicuous light, and making them the honorable instruments of that example, which a mere preceptive Society has not, in itself, the power of setting.

But, on a LARGE ESTATE, this may be the best done, by its Proprietor. He knows, or ought to know, the individuals who are most worthy of being made the
disting-

distinguished leaders of its improvement: and, in this case, he can encourage them; according to their merit; without being liable to the cabals of Theorists and Adventurers, to which mixed Societies are ever subject. A few pounds expended, annually, among his own tenants, in stimulating them to accurate management, would, in most cases, pay him tenfold interest*.

These reflections suggest Institutions of a higher order. Let men of landed property associate: not so much for the particular purpose of ENCOURAGING GOOD HUSBANDRY among their tenants, as for the more general intention of ascertaining the suitable regulations, under which to conduct the MANAGEMENT OF ESTATES.

For

25.
AGRICUL-
TURAL
SOCIETIES.

ASSOCIA-
TIONS OF
LANDED
GENTLEMEN.

* In a Sketch of the RURAL ECONOMY of the CENTRAL HIGHLANDS of Scotland, which I had the honor of presenting, in 1794, to the BOARD OF AGRICULTURE, as a Report concerning that part of the Island, I pursued this idea; proposing to divide a large estate into Districts, or Officiaries; and to place a superior Manager in each, as a distinguished Leader, in Rural Improvements.

25.

ASSOCIA-
TIONS OF
LANDED
GENTLE-
MEN.

For seeing, evidently, not only in the District under survey, but in other Districts of the Island, that a greater defalcation of public and private property is incurred, through the inaccurate management of landed property, than through the errors of cultivation, it belongs exclusively to the possessors of estates to rectify the impropriety*.

The

* I am desirous of being fully understood. There are, in these Kingdoms, many Estates, as well as many Farms, in a state of good management; they being either under the immediate direction of Proprietors, who have turned their attention to rural concerns; or of Agents, who have a practical knowledge of Rural Affairs, and who have no interests subversive of, or distinct from, the good order and prosperity of the Estates under their care. But there will be little risk in saying, that a majority of the larger Estates, throughout the Island, are under very different principles of management.

I am equally desirous to be explicit, with respect to SOCIETIES OF AGRICULTURE. I have said in another place (see the RURAL ECONOMY of the MIDLAND COUNTIES, Vol. I. P. 121.), that mixed Societies are capable of producing good, by assimilating the sentiments of Proprietors and Occupiers. And I believe that Provincial Societies have ever been beneficial, *in the outset*, to the Districts in which they have been formed, by agitating the Subject, and tending to awaken the SPIRIT OF IMPROVEMENT.

The subjects, that would naturally offer themselves to such Associations, are the following.

25.
ASSOCIA-
TIONS OF
LANDED
GENTLE-
MEN.

The present management of landed property, in the District of Association.

The laying out of estates, into farm lands, or such as are adapted to cultivation, and into woodlands, or such as are fittest for the production of timber or coppice wood.

The suitable sizes and characters of farms.

The species of tenancy.

The forms of leases.

The qualifications of tenants.

The proper seasons and terms of removals, receiving rents, &c. &c.

The encouragement of good managers, and the discountenancing of bad ones.

The permanent improvement of farm lands, by draining, watering, &c. And their more temporary melioration, by manures, sodburning, tillage, &c.

The plan, and construction, of farm yards, and buildings.

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X

The

25.

ASSOCIA-
TIONS OF
LANDED
GENTLE-
MEN.

The management of hedges.

The management of timber, woodlands,
and plantations.And the more general improvement of
the given District of Association ;—by

Public Embankments.

Public Drains.

Public Navigations.

Public Inclosures.

The melioration of Tithes, and.

The Poor's Rate : as well as the
regulation of

County concerns ; and the support of

The landed Interest ; which has lain
neglected and trampled on, by Commerce
and Manufactures, until the Country is no
longer able to provide sustenance for its
inhabitants *.

SEPTEMBER

* For a striking evidence of the truth of this assertion,
see the RURAL ECONOMY of the MIDLAND COUNTIES,
Vol. II. P. 294.

26.

1792. SEPT. 24. The MONASTERY BARN of this place is perhaps the first to be found, at this day, in the Island: not in respect to size, though it is large, but in regard to the state of preservation,—both of its walls, and its roof.

BARN OF
BUCKLAND.

This Barn, having been built under the Pack-horse plan of Husbandry, was most inconvenient for carriages; having only one pair of doorways, in the middle of it; with a passage through, and a thrashing floor on either side of the roadway. The width of the barn (namely, twentyseven feet in the clear), not permitting waggons to turn within the area, the Corn has ever been thrown, from the waggons, upon the floors, and thence flung, from hand to hand, to either end of the barn! which is a hundred and fifty feet in length.

The obvious method of improvement was to break out doorways, towards the

X 2

ends;

26.

BARN OF
BUCKLAND.

ends; so as to divide the whole length of the barn, into six bays or mowsteads, with a floor between each two, in the *English* manner: an arduous task, which is now executing; and which will render it one of the first barns in the Kingdom.

NATURE OF
CEMENT.

The labor of cutting these doorways is nearly equal to that of cutting through solid rock, of equal thickness; namely, three feet. The cement is of an extraordinary quality: as hard almost as granite; especially on the North side of the building. That of the South or rather South-West wall is much more friable: a circumstance which has been observed in other old buildings of this place; and which is entitled to Philosophic enquiry.

27.

THE USES
OF RILLS.

SEPTEMBER 24. A Spring in the upper part of this Farm supplies the house with water. It also supplies a drinking pool,
near

near the yards; and its natural course carrying it through a small Strawyard, a trough is placed across the rill, for the use of the yard cattle.

It has also, time immemorial, been led over some grass lands, which lie below the yards,—on the float-and-drain principle.

But although this rill is seldom if ever dried up—leading it along the sides of the Valley, through upland inclosures, which are destitute of water for stock, and their value of course thereby much depreciated,—does not appear to have been thought of.

In the course of last Summer, being desirous to know if this rill could be carried through an intended suite of yards, on the side of the Valley, I took the level, and found not only that object to be attainable, but also that it may be led with ease into two waterless fields, which lie above these yards; and, through them, into four or five more (equally in want of water for stock), situated beyond them.

In ascertaining these facts, I made use of a mason's long level, inverted: a plummet

X 3

hole

27.

THE USES OF
RILLS.

27.

THE USES OF
RILLS.

hole being previously cut in the head of the standard ; the crown of which being set upon the ground, the arms of the level were steadied by rods, in the horizontal position ; and a carpenter's rule held across another rod, set up, at as great a distance as a clear sight would admit of, and at a height upon the staff, equal to the height of the level.

CONSTRUC-
TION OF A
NEW LEVEL.

Finding this a most simple and perfect instrument, but difficult to adjust, by reason of its instability, I have since had a FRAME LEVEL made, on the same principle ; namely, with a straight edge, or top rail, answering to the base board of the long level ; with a broad piece falling down from the middle of it, answering to the standard ; and with two end pieces or legs, to supersede the use of the rods ; together with a bottom rail, eight or nine inches from the ground, and with diagonal braces, to keep the whole firm, and prevent the middle or plumb line from getting out of the square, with the straight edge of the top rail ; which is seven or eight feet long,
and

and the height about four feet *. And, as an improvement of the rule and rod, I contrived a CROSS STAFF; namely, a slip of thin deal, about five feet and a half long, with a cross piece, about two feet long and three inches wide, fixed in the edge of it, at the exact height of the level; the top of the staff rising twelve or eighteen inches above the upper edge of the cross piece, that the hand of the person who holds it up may not interfere with the view †.

With this instrument, I have lately traced the FLOWING LEVEL of the intended rill, for watering the yards, and the grounds beforementioned.

To ascertain the proper fall of a rill of this intention, I previously took the running level of the antient floating Leat of the meadows ‡; and finding its fall irregular,

X 4

gular,

* Half a rod long, and a quarter of a rod high, are eligible dimensions, when great accuracy is required. But a shorter length, as one third of a rod, is more handy.

† This cross piece should be of white wood, as deal, or be painted white, that it may be the more distinctly seen, at a distance.

‡ See Vol. I. P. 206.

27.

CONSTRUCTION OF A
NEW LEVEL,

CONDUCTING MADE
RILLS,

27.

CONDUCT-
ING MADE
RILLS.

gular, I took it in two places, where the variations were greatest. In the first, the fall was twentyseven inches, in one hundred and ten feet; which is nearly one inch, or one foot, of fall, to fifty inches, or fifty feet, in length. In this part the current is in a degree rapid; the fall much too great for the general intention. The fall, in one hundred and ten feet of the other part, is barely six inches; which is only one measure of perpendicular height to two hundred and twenty of horizontal length. But in this-part, the motion is too sluggish: the surface of the water is nearly smooth; barely dimpling; no ripple, or agitation appears. The fall is evidently too little for a water course, in which there is not a constant stream.

PROPER
FALL OF
RILLS.

I have therefore fixed upon ONE MEASURE IN A HUNDRED, as the proper fall of a water course, into which water is occasionally thrown; for the purposes of watering lands, filling drinking pools, cisterns, &c. &c.

To adjust the level to this descent, I measured one hundred feet in length, and
having

having nicely ascertained the DEAD LEVEL, I depressed the range of the top bar, one foot below the upper edge of the cross piece of the staff, and, while in that position, I marked the situation of the plumb line, on the face of the level; the plummet hole being made wide for this purpose: thus *fixing* the FLOWING LEVEL.

27.

PROPER
FALL OF
RILLS.

With this descent, I have traced a line, from an intended reservoir, and from point to point, through the fields of one side of the farm, and find that it reaches, even with this descent, within every field: and that three fourths, or a larger proportion, of the surface are *capable* of being floated, from this intended pool.

To see the actual motion of water falling one in a hundred, I have had fifty yards of the upper end of the line opened; and find the current fully sufficient; a lively rippling stream; more active perhaps than is necessary. But the leakage being the less, the quicker the water moves, we may safely conclude, that one foot of fall in a hundred feet of length is nearly perfect.

By

27.

PROPER
FALL OF
RILLS.

By the same means, I have also found that, from a similar reservoir to be formed near the source of the rill, water might be conveyed to every field, and almost every acre of the opposite side of the farm.

USES OF
RESERVOIRS.

The uses of these reservoirs will be those of having in readiness, during the summer months, when the rill is weak, a body of water to throw into drinking pools, cisterns, &c.: a weak current turned into a dry trench is absorbed by its perforations and fissures, for sometime, at least, after it is turned in: whereas a body of water, rushing quickly along it, not only in part escapes absorption, but tends to fill up the leaks: and, in winter, these reservoirs will be useful in scouring the trenches, and in hoarding up bodies of water, for the purpose of irrigation.

In setting out these rills, I have laid the head or upper end of each, from two to three feet below the intended surfaces of their respective reservoirs, when full. Hence, by means of a portcullis floodgate, a body of water, two or three feet deep,
and

and the whole extent of the surfaces of the basons, may be poured into the rills, faster or slower, as occasion may require.

27.

USES OF
RESERVOIRS.

28.

SEPTEMBER 30. The Florists of this District have an effectual and ready way of DESTROYING EARTH WORMS, in their knots and borders; by the means of an infusion of walnut-tree leaves. The process is this:---fill a vessel nearly full, with leaves, gathered in the first or second week of September;---cover them with water, and let them stand two or three days; until the water has acquired a blackish green color. With this infusion, the beds and alleys are watered, by means of the common watering pot. The worms presently rise to the surface, and die in apparent agony.

DESTROY-
ING EARTH-
WORMS.

It strikes me that this interesting fact may be turned to a profitable purpose, in the forming of DRINKING POOLS. It is probable,

DRINKING
POOLS.

28. probable, that leaves of the walnut, spread
DRINKING under the clay, would have the same effect
POOLS. as the lime, which is now in use *.

Reflecting on this subject, it appears to me further probable, that the use of clay, in making pools, may be dispensed with. Thus :---form the bason ; puddle with the best of the excavated mold ; strew on leaves ; and pave with liquid mortar ; made up with their infusion,---if required.

The bason form of the pit is an objection to puddling ; and could not, perhaps, be effected otherways, than progressively with the pavement ; by puddling above each ring, and bedding the stones in the medicated matter ; pouring in liquid cement, where it might appear to be wanted. Or, perhaps, the medicated batter would in itself be sufficient.

This is a subject of great importance, in upland situations. Forming drinking pools with clay and lime (great as was the discovery) is difficult and expensive ; and any means of simplifying the process would be valuable.

SEP-

* See YORK. ECON. Vol. I. P. 146.

29.

SEPTEMBER 30. FARM BUILDINGS.

LAYING OUT
FARMERIES.

Where a blank is given, — where the ground may be chosen, — where there are no buildings already erected, — or, where there are given buildings, if they stand in the desired situation, — few difficulties can arise, in laying out a Farmery.

But where the site is given, — where there are principal buildings already fixed on the spot, — and these on awkward ground, and in awkward situations with respect to each other, as they are on this farm, it requires great study and invention to render the yards and additional buildings convenient, or commodious.

In this case, the capital barn, already mentioned, is situated between the dwelling house, and a range of spacious office buildings, — on the side of a steep hill; the
out

FARMERY
OF
BUCKLAND.

29.

FARMERY
OF
BUCKLAND.

out buildings above,---the house below---
the barn ;---with other offices, at a considerable distance.

The desirable object, here, was to collect the whole into a compact form, in the immediate vicinity of the barn. And this has been effected, by forming a semi-octagon yard, in the front of the principal range of buildings ; and inclosing it with a line of cattle sheds ; the area of the yard being formed into a receptacle for the dung of the sheds and stables.

This form of a farm yard, though I have been led to it by circumstances, cannot perhaps be improved ; even where a blank site is given ; except by that of a compleat octagon.

CATTLE
YARDS.

AN OCTAGONAL YARD is warm, and is much more commodious than a square one ; by reason of the sharp inconvenient angles being cut off ; and octagonal sheds are equally commodious ; each side having its range of stalls, with fodder houses in the angles, between them : a gangway, in this case, running from end to end, before the heads of the cattle, and through the store
houses ;

houses; which have doors opening to the road, on the back or outer side of the sheds, to receive the food;---whether it be hay, straw, roots, or other material.

29.

CATTLE
YARDS.

30.

OCTOBER 5. The doors of the store houses of these sheds are hung to open outward; to prevent a waste of room, and to render them more secure against intruders. To increase the security, they are hung with a fall to the catch; and to prevent their being injured by the weather, when open, they have also a fall, backward, under the eaves of the building. To effect this, the balance point is placed in the midway, between the two extreme positions of the door; which, being set at right angle to the line of the building, has a fall to either hand*.

HANGING
DOORS.

The

* See MID. ECON. Vol. II. P. 79. for practical rules on this subject.

30.

HANGING
DOORS.

The hooks and catches are laid into blocks of moorstone, and worked up into the jambs of the doorways; the material of building being a coarse schistus, or slate stone.

The hooks of the new doorways of the barn I am likewise laying into moorstone; recesses being hewn out of the jambs to receive the blocks; which are large, and fixed firmly in their places;---first, by means of wedge-shaped stones, driven in above them; and, afterwards, by wedging them in more firmly, with thin pieces of iron; forcing out the cement, at every crevice.

AN EFFECT
OF RUST?

It is observable, that the hooks of the original doors of the barn, which are in like manner laid in stone, have most of them burst their bounds, and broken off more or less of the outer parts of the stones they are respectively laid in. A sensible and experienced stone mason is of opinion, that these fractures are occasioned by the rusting of the iron; having, he says, carefully traced the effect, in several instances.

But

But may not this effect be caused by the susceptibility of metals, with respect to heat and cold? Or may not the mischiefs, in the instance under notice, have been done by the jarring of the heavy doors, blown violently to, by the wind? I have, however, observed similar fractures, in cases where the last suggested cause could not so easily operate.

Facts, which require a succession of ages to produce them, are too interesting to be passed without attention. The effect here noticed is observable in many ancient buildings, and the operation of the rust of iron is not, perhaps, accurately understood.

30.

AN EFFECT
OF RUST.

31.

OCTOBER 13. Doors hung on hooks laid into the wall, as above described, require to be hung in *rabbets*. For, if they are hung in *between* the jambs, rain and snow will beat in: if they *lap over*, on the

HANGING
DOORS.

VOL. II.

Y

out-

31.

HANGING
DOORS.

outside, they are exposed to the weather, are in harm's way, and are unsightly. A rabbet, of due dimensions, obviates these inconveniences. And I have found that, for ledge doors, made of inch boards, and hung to fall back under the eaves, in the manner above mentioned, three inches deep, each way, are the proper dimensions.

32.

LIMING
LAND.

OCTOBER 28. Last year, I had the lime, for wheat, set about the field, in waggon-load heaps; with the intention of mixing with it the velled Beat, or the ashes that might arise from it, as the season should render most convenient. But I left the Country, before I had an opportunity of seeing the operation, properly performed.

This year, similar heaps being set about, I have had them covered, thickly, with unburnt Beat, collected with the team rake, or "drudge," of the Country; and the whole

whole duly "melled" or mixt, in the Devonshire manner* ; with a small deviation in this case.

32.
LIMING
LAND.

The operation being purposely begun before the middles of the heaps were fallen, they were first pulled abroad, with a hack ; thus giving a rough mixture to the unslacked knobs of lime and the wet Beat, under which they were deeply buried. This brought on a quick dissolution of the lime ; whose heat, of course, operated in the destruction of weed seeds and animalculæ ; and, while the heat was at its height, the whole were intimately mixed together ; thus saving, by one easy process, the endless labor of two tedious operations.

33.

OCTOBER 28. (See MIN. 27.) In conducting this rill through an open grove of tall trees, I have found some difficulties : not only the *ground* but the *trees* were
Y 2 given.

CONDUCT-
ING RILLS.

* See the Article LIME, Vol. I. Page 158.

33.

CONDUCT-
ING RILLS.PRACTICAL
DIRECTIONS.

given. By pursuing the following methods, these difficulties have been overcome.

Having, by means of the frame level and cross, ascertained the general descent, or flowing level, through the whole extent of the grove ; and having, in this operation, gained a general idea of the requisite direction of the rill, by means of stakes placed at the several stations of the cross staff, wherever clear views could be caught through the openings between the trees,—the intermediate spaces, between the stakes, were traced by the eye, so as to endeavour to follow the natural level of the ground, without forming abrupt bends in the channel ;—parrying between the two.

The supposed line being thus set out, the surface of the ground was cleared two or three feet wide on either side of it, from leaves and other incumbrances, and the top soil removed for manure ; thus making a hollow pathway through the grove, some four or five feet wide.

The next operation was to level this pathway ; which was likewise done by the eye, from stake to stake ; paring off the
pro-

protuberances, and casting or wheeling them into the hollows.

33.

CONDUCT-
ING RILLS.

To come at the true line, and to render the flowing level perfectly uniform, a narrow pathlet, the width of the spade, was formed on the upper side of the broad pathway. This pathlet was formed, with the frame level in hand; sinking trenches in the still protuberating parts, and raising banklets in the hollows: thus *fixing* the exact flowing level, at each level's length; and, at the same time, forming the face, or lower side of it, in such manner as to ease the bends, and give a smooth flowing line to the rill.

In order to bring the business of forming the bed of the rill to a certainty, and thereby to render any further superintendence unnecessary, yet to prevent error in the execution, I formed a gauge for the laborers to work by.

This gauge consists of a board, forming the segment of a circle; the chord or greatest length being three feet, the greatest depth twelve inches. This gives the dimensions of the bed of the rill. To keep

33.
CONDUCT-
ING RILLS.

the bottom of it, exactly true to the flowing level, so that the current or stream may be perfectly uniform, — this gauge is fixed under a mason's short level ; the end of one of the arms projecting, three or four inches, beyond one end of the gauge.

The trench being sunk, to nearly its proper depth, by the eye, kept on the adjusted margin, the projecting end of the level is placed on the same marginal guide, and the plummet line being brought to the perpendicular (and the base of the level of course rendered horizontal), the bottom of the trench is finished, *with certainty*.

This evening, I have had the water turned into the upper part of the trench thus formed, by two common laborers, who never before, perhaps, took a level in their hands. The current is not only desirable, as to descent ; but is perfectly uniform, — *without alteration*.

Hence the practicability and certainty of this method of forming the channels of rills, — as well as the eligibility of one measure in a hundred, for the descent or fall, — are fully ascertained.

The

The dimensions above stated,—namely, three feet wide and one foot deep,—(a size fully sufficient for any purposes, at present intended by this rill) I have adopted as the fittest for the part which passes under trees, and which will be liable to be choaked by leaves and falling twigs. But a part which crosses an open grass ground, and where cattle will frequently pass and repass, I have had formed by a shallower gauge: namely, a segment four feet wide and eight inches deep; the bank on the lower side of it being made broad, and flatly convex; to prevent the cattle from treading in the sides: and, to give it more immediate firmness, it is turfed with the sods, taken from the part which is now the bed of the rill.

33.
CONDUCT-
ING RILLS.

34.

DECEMBER 8. The laying out and forming of ROADS have engrossed a principal part of my attention, during the last two or three weeks; and, so far as relates

LAYING OUT
ROADS.

Y 4

to

34.
LAYING OUT
ROADS.

to convex roads, on a descent, I have brought this useful art to method and a degree of certainty.

In the forming of roads, as in the conducting of rills, the frame level and cross are accurate and ready guides,

The given points of the intended road having been marked, the most desirable line, whether as to utility or ornament, is to be set out, with tall stakes placed at equal distances, as ten paces from each other. These preparatory steps having been taken some days previous to the commencement of the work,—in order to give time for deliberate adjustments,—the level and the cross are placed at the opposite extremities of the line, or as near them as a clear sight can be caught from the one to the other; and the level being deliberately adjusted to the cross, the situation of the plumb line is marked, on the face of the level; and thus the rake or degree of descent is determined and *fixed*; and, of course, a uniformity of descent, if required, may thereby be accurately preserved, in every part of the line. If this wind much,
the

the degree of inclination or descent will be diminished, as the length of line is encreased; and, if an exact uniformity be required, an allowance should be made for such deviation. But, if the declivity be long, relaxations in the line of ascent, at suitable distances, have their use for heavy carriages, and are not displeasing to the eye.

The degree of descent being determined, the next step is to try if the line marked out correspond with it. This is done by keeping the level in its place, and setting up the cross at the foot of each stake, or at the feet of as many as occasion requires.

If the marked line deviate, much, from the line of general level; so as to render the road inconvenient, or encrease, unnecessarily, the expence of making it, a fresh line is set out; endeavouring to parry, between the true line of direction, and the true line of descent.

The line of direction being finally determined on, and adjusted, a strong stump, or slender pile, two feet or more in length, is entered, with an iron crow, at the foot of each stake; and driven down to the
general

34.

LAYING OUT
ROADS.

34.
LAYING OUT
ROADS.

general rake of the intended surface of the road, when finished.

This is readily done, by placing the feet of the level, on this intended line of surface, and putting the foot of the cross upon the head of each stump; continuing to keep the level to the rake line, and to drive the stump, until the arms of the cross are seen to range exactly, with the straight edge of the level; or, which is frequently more expeditious, especially where the subsoil is stoney, by placing the foot of the cross against the side of the pile, and raising or lowering it, until the raking level be caught; then marking, and sawing off, the head of the stump: proceeding in this manner, until each stake is supplanted by a pile.

Where the ground is very rough and uneven, it is convenient to break down the protuberances, by the eye, previously to the adjustment of the piles.

The piles being adjusted, a regular trench or pathway is formed, the whole length of the line of road set out, at a depth below the heads of the stumps, equal to the intended thickness of the covering materials:

materials: namely, in private roads and ordinary cafes, one foot: leaving the piles standing in the middle of the trench or pathway; showing one foot of their length above the intended bed of the road, with another foot, or a sufficient length in the ground, to keep them firmly in their places, until the road be finished; the heads of the piles being the requisite guide to the covering.

34.
LAYING OUT
ROADS.

This trench or pathway being the true middle line of the bed of the road, an unerring guide is given to the workman, and the business of the artist is at an end. The rest is mere labor, which may be performed, by ordinary workmen, under general directions.

The BED OF THE ROAD I make flat, or nearly so; the outer edges, only, dipping somewhat beneath the general level; the convexity of the road, itself, being given with the rough foundation materials,

FORMING
ROADS.

35.

COPPICE
WOOD.

1793, JANUARY 29. There are, now, on this demesne, fortyfive acres of overgrown COPPICE. WOOD ; namely, wood of about thirty years growth.

AGE OF
CUTTING.

The lands of this District being in general unfriendly to the Oak, after it attains a certain growth, much of the spray and upper branches of this wood are beginning to decay. Initead of encreasing in value, it is probably getting worse, every year ;— especially with respect to its bark, which is at present a valuable part of it. Twenty years, I find, is the usual growth of coppice wood, here, and every circumstance weighed, it is perhaps, on the whole, the most eligible.

RENTAL
VALUE.

The usual price of coppice wood, at twenty years growth, has been of late years ten to twelve pounds, the “ customary acre”

acre" of the country * ; for wood growing on land of a quality, equal to that of arable lands, which are worth ten or twelve shillings the *statute* acre. Of course, woodlands afford, to their proprietors, little more than half the annual rent of farm lands, of equal quality.

For suppose coppice wood of twenty years growth sells for ten pounds the provincial acre,—this is but barely equivalent to seven shillings an acre, received annually for farm lands ; as, in the course of twenty years, the interest of the several annual sums received, and the accumulating interest thereupon arising, amounts to nearly half the principal : and, if a farther reduction be made for the difference between the provincial and the statute acre, we shall bring down this nominal rent of ten shillings; an acre, a year, to little more than five.

Twenty pounds, an acre, have been offered for twenty acres of the best of this coppice wood ; under the conditions of
being

* The "CUSTOMARY ACRE" of this District is calculated on eighteen feet to the perch : five provincial acres being about equal to six statute acres.

35.

RENTAL
VALUE.

35.

RENTAL
VALUE.

being allowed two years for the felling of it ; — and to pay at Christmas for the quantity taken down in the preceding year ; agreeably to the usual custom of the District.

This farther delay of the receipt of the principal, and the attendant loss of interest, is a farther reduction of the annual rent of the land ; yet is seldom, perhaps, taken into the account, in calculating the net produce of woodlands.

On calculation, I find that twenty pounds an acre, for wood of thirty years growth, does not neat more than seven shillings and nine pence an acre, received annually, and put out, at simple interest, at five percent. At four percent, and reckoning nothing for interest on the accumulating interest (which in a course of years would amount to a considerable sum), this price does not neat more than eight shillings and five pence an acre, a year, received annually as rent ; even supposing the whole money to be paid down at the time of sale.

RECLAIMING
COPPICE
GROUND.

About thirty acres of this tract of woodland lies on a culturable slope ; and would
be

be worth, in a state of full cultivation, fifteen to twenty shillings an acre : whereas, in a state of woodland, it has probably never paid more than one third of the money ; and is not, in reality, worth more than half of it.

35.
RECLAIMING
COPPICE
GROUND.

The propriety of reclaiming it, from its present unprofitable state, admits not of dispute ; and the means of bringing it into cultivation is the only point which remains to be determined.

To dig up the roots entirely, so as to admit the plow, in the first instance, would not only be expensive ; but, by bringing up the substrata, the cultivated soil would be debased, and rendered unproductive for a course of years.

But, by clearing away the whole, level with the ground, or a little within the surface of it ; and dressing this freed surface with lime, in order to dissolve, the more readily, the leaves and decayed wood with which it is thickly covered ; and by giving a degree of evenness to the surface with the harrow and the roller ; sowing suitable grass seeds between the operations ; a sheep walk

35.
RECLAIMING
COPPICE
GROUND.

walk would be immediately obtained ; and, in a few years, when the roots were decayed, and a turf formed over them, the land might be broken up with ease and profit *.

36.

COPPICE
WOOD.

FEBRUARY 13. (See the last MINUTE.)

A few days ago, I sold the whole of this coppice wood, at the high price of twenty two pounds ten shillings an acre ; and under the following favorable conditions †.

CONDITIONS
OF SALE.

The whole to be taken down in two years ; namely, in the years 1793 and 1794.

* For former Remarks on this Method of Reclaiming Woodlands, see YORK. ECON. Vol. I. page 316.

† These Conditions are inserted, here, for the general purpose of giving the Reader an opportunity of comparing them with those of other Districts ; and to assist, eventually, in drawing Forms of CONDITIONS OF SALES ; which, as FORMS OF LEASES, are at present, in a degree vague and unfixed.

1794.—One hundred pounds of the purchase money to be paid down each year, previously to the commencement of the cutting; one moiety of the remainder of the amount of what shall be taken down in each year, at Midsummer; the other moiety at the ensuing Christmas. The purchaser to be allowed a square perch for each tree standing among the coppice wood, and a quarter of a perch, for each standle of the last cutting. To finish the cuttings, by Midsummer, and to clear the ground, by the Christmas following, in each year, &c. &c.

Previously to this advantageous bargain, I had an offer of twenty pounds an acre, for the whole, to be taken down in five years.

The difference between these two prices appears, on a superficial view of them, to be little more than a hundred pounds. But if the interest of money, and the growth of the succeeding wood be taken into the calculation, the superior advantages of the latter will be found to amount to more than two hundred pounds: as appears in the following statement.

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Z

First,

36.

CONDITIONS
OF SALE.

SALE OF
COPPICE
WOOD.

36.
SALE OF
COPPICE
WOOD.

First, forty five acres, at 20l. an acre,
and taking down nine acres a year.

	Princ.	Int.		£.	s.	d.
1st Year,	180	00	Growth of Wood at 8s.	3	12	0
2d	180	9		7	4	0
3d	180	18		10	16	0
4th	180	27		14	8	0
5th	180	36		18	0	0
	900 Prin.	90		54	0	0
	90 Interest					
	54 Growth of Wood.					

£.1044 the total Advantage, at the end of five years.

Secondly, forty five acres at 22l. 10s. and
twenty two and a half acres, a year.

	Princ.			Int.				£. s. d.		
1st Year,	506	5	0	00	0	0	Growth of Wood,	9	0	0
2d	506	5	0	25	6	3	—————	18	0	0
3d	00	0	0	50	12	6	—————	18	0	0
4th	00	0	0	50	12	6	—————	18	0	0
5th	00	0	0	50	12	6	—————	18	0	0
	<u>1012</u>	<u>10</u>	<u>0</u>	<u>177</u>	<u>3</u>	<u>9</u>		<u>81</u>	<u>0</u>	<u>0</u>
	177	3	9	Interest						
	81	0	0	Growth of Wood.						

1270 13 9 total Advantage at the end of five years.

1044 0 0 as above

£.226 13 9 superior Advantage*.

FEBRUARY

* These Statements are published, for the instruction
of those, to whom calculations of this kind may not be
familiar. The use of them is obvious.

37.

FEBRUARY 14. The side walls of an ancient monastic building having fled from the upright,—by the buttresses in front having given way at the foundation, and by the back wall being impelled forward, by a load of earth and a road, behind it,—(the ground, on the outside, being several feet higher than on the inside) I have secured, in the manner hereafter described.

SECURING
BUILDINGS.

What rendered this case the more difficult was the circumstance of both walls requiring support; yet both of them inclining the same way; so that there was no *tie* to be got, nor any *purchase* to be had.

If the front wall had been stayed, by fresh buttresses; still the back wall (against which the pressure immediately acted) would have remained, in a degree unsupported. There are, in this, as in other Gothic buildings, no binding beams to the roof; nor any other tie between the two

Z 2

walls,

37.

SECURING
BUILDINGS.

walls, than the floor beams of a chamber. Beside, buttresses, in front, would have been inconvenient, and unsightly; and, like other supports on the *outsides* of buildings, would have been liable to the drip of the eaves, and to the effects of the weather.

The expedient, which I hit upon, was that of raising strong BUTTRESSES, on the INSIDE OF THE BUILDING, against the back wall; which is thus firmly stayed, and effectually prevented from farther inclination; and, at the same time, firm purchases are obtained, for the purpose of tying in the front wall; which has been done in such a manner as will probably be the means of prolonging the duration of the building,—a few more ages of time.

The ties, in this case, are large oak floor-beams; which are securely fixed, in front, to the old buttresses; and, to the back wall, by means of large blocks of granite or moorstone; in shape, the lower frustums of square pyramids. These blocks are laid in, flush with the outside of the wall, and with their bases outward; beds or recesses having been accurately cut out of the
rocklike

rocklike substance of the wall, to receive them.

Through these blocks, pass strong iron bars, or pins; which are firmly strapped to the ends of the beams (bearing on the tops of the buttresses); and which are secured, and the ties drawn tight, by means of strong wedges or keys, drawing against broad firm disks of iron, bearing against the perforated blocks; which thus operate as dovetails to the ties.

In building these buttresses, the foundations, as well as each course of stones, were made to dip towards the wall, in the same proportion as the buttresses incline, or batter: the courses being kept at right angle to the line of batter, or face of the buttress:—a principle which ought not to be deviated from. For, by adhering to it, the resistance is rendered the greatest; and, by placing the buttress in a falling posture, towards the wall, it settles the more firmly against it; while, by tothing the one into the other, as has been done in this case, the whole settles, intimately and firmly, into one incorporate mass.

37.

SECURING
BUILDINGS.

BUILDING
BUTTRESSES.

38.

SHEEP
FARMING.

TEMPORA-
RY GRASS-
LANDS.

FEBRUARY 16. On a farm on which SHEEP are a principal object, TEMPORARY LEYS productive of sheep feed become, likewise, an object of the first magnitude. The practice of mowing, the first year, leys intended for five or six years duration, is a crime for which nothing, but necessity, is admissible as an excuse. By this improvident step, the sward or turf is rendered thin of plants, for several succeeding years. Not only the more delicate species of herbage, which seldom fail to rise after a short course of aration, are liable to be checked or smothered, by the luxuriant growth, and impervious shade, of cultivated herbage; but the cultivated herbs, themselves, are in some certain degree weakened, and their number decreased; especially if the soil be much exhausted, or be out of tilth.

On

38.

TEMPORA-
RY GRASS-
LANDS.

On this farm, a striking instance of the mischief arising from the practice of mowing such leys, the first year, is at this time most evident. The young ley grounds, which were mown last summer, may be said to be now unoccupied ; except by daisies, groundsel, and a few other weeds. One of them, though the land is of a superior quality, is not worth, for the coming year, five shillings an acre. Whereas, had it been pastured down, close, last spring and summer, it would, in all probability, have been worth five times that rent---for this and several succeeding years,---as a sheep pasture.

PLAN OF
FARMING.

To every farm, on which cultivated leys, of five or six years duration, make a part of the plan of management, the most desirable appendage is a sufficiency of MEADOW LANDS, OR PERENNIAL MOWING GROUNDS, to furnish the farm with a supply of hay, without being under the necessity of mowing temporary leys, the first year ; and happily circumstanced is the farm, whose situation, with respect to the quality and quantity of water it commands, enables it

38.

to produce, by IRRIGATION, a sufficiency of hay, to carry its requisite livestock, through the winter months.

WATERED
MEADOWS.

The demesne lands of this estate are fortunately in this situation. Some twenty or thirty acres of them have been more or less watered, time immemorial; and with water of a superior quality.

NATURE
OF
WATER.

The effects of the slate-rock waters of this District are superior to those of any others I have had an opportunity of observing; the chalk waters of Wiltshire and Hampshire excepted. There are slopes of hills on this and the surrounding farms, which are now as green and *gross*, to the eye at a distance, as the rankest wheat in May*.

STUDYING
SITES OF
IMPROVE-
MENT.

Seeing these advantages, I have been assiduous to ascertain the facts respecting the possibility of watering the different parts of this estate; and I found, some time ago (see MIN. 27.), that almost every acre of it is *capable* of being flooded, artificially, by running water. The QUANTITY OF
WATER,

* It is everywhere observable, and is most interesting, that the steeper the slope, the more obvious is the effect.

WATER, however, that can be conveyed to it, though sufficient to furnish pasturing stock, with a valuable supply of beverage, is too small for the purposes of irrigation.

But the mischiefs arising from the practice of mowing ley grounds, the first year, having lately pressed more closely on my mind, I have been studying, with redoubled attention, the capacity of the different grounds of this farm, with respect to water. And I have discovered, that a sufficiency of them, to answer, fully, the purposes required, are capable of receiving an abundant supply of water; and that such a supply may be brought to them, at a small expence.

But the waters which are already within the farm, claiming the first attention, I have, hitherto, been endeavouring to turn them to the best advantage; by conducting them properly over the lands which most command them.

This has been effected by taking the water out of its natural channel, at different heights, and conveying it to the several stages of the slopes, over which these lands
are

38.

STUDYING
SITES OF
IMPROVE-
MENT.

WATERING
SLOPES,

38.

WATERING
SLOPES.

are spread, by means of main floats, leats, or artificial rills, for the purpose of seeding the floating trenches, which distribute and spread the water over the faces of the slopes.

PROCESS
OF
IRRIGA-
TION.

In setting out and forming these conducting channels, I have found the frame level and cross safe and ready assistants; and the descent of one measure in a hundred most eligible;—as giving a lively motion to the water, and a firm bottom to the channel, without wearing away its sides.

In conducting channels of this intention, across grounds much varied in surface, and where a degree of ornament is required to be joined with use, as was the case in this instance, some attention is requisite. If the ground be implicitly followed with the level, not only a circuitous length of channel and a waste of land, but short angular unsightly bends, are produced. If, on the contrary, straight lines are attempted across a varied surface, the labor of raising the hollows, and sinking the knolls, is great, and the beauty of the line is wholly lost. Hence, where the ground does not naturally

rally afford the given line, the MIDDLE COURSE is requisite to be chosen.

In this instance of practice, I have found it best to set out the line, first by the level, crooked or straight, as the ground directs; then, to give it the required direction, by the eye; and, afterward, to correct the eye with the plummet; lest the line should lie much too high or too low, in any particular part:—for a steep-sided trench is liable to be trodden in by cattle, and a sharp ridgy bank is equally liable to be torn down by their tread: while, over a shallow trench, and a broad swelling bank, they step without injury.

But, in watering the hangs of hills where a blank site is given, and where no fences already exist, there are few cases, perhaps, in which the main floats should be liable to the passage of stock. The uppermost is, of course, laid as high as the flowing level from the source will allow, and necessarily divides the watered from the unwatered lands; and is, of course, a *given* line of fence. If the valley be narrow, or the foot of the slope, which commands the water,

38.

PROCESS
OF
IRRIGA-
TION.

LAYING OUT
WATERED
LANDS.

38.
LAYING OUT
WATERED
LANDS.

water, be short, one main floating trench is sufficient. For by running parallel trenchlets along the face of the slope, at once to collect the dispersed waters, from above, and to distribute them more evenly below; and by letting down a supply of water to the lower trenchlets, when the upper side of the slope is sufficiently watered; one main float is sufficient to supply a field's width of land. And, if a continuation of the slope require it, another main float, and another fence, may, and in general ought to run parallel to the first.

There are two reasons why fences of this sort should be placed on the *upper side* of the floating rill. The water is more easily let off, into the working trenches, than it would through a fence; and especially through a hedge; whose roots, and the holes of the vermin they harbor, would be the cause of a continual waste of water.

Viewing fences, thus winding along the wavy surface of a slope, in the light of ornament, a light in which they ought to appear within this demefne, an additional motive, for running them along the side of
a wavy

a wavy rill, arises. If the broad swelling bank, which ought to accompany such a rill on the lower side, were formed into a walk,—determined in width, and always kept dry, by a working trench, on its lower margin,—the bank would be rendered firm, by the pressure of the foot, and, in this instance, a delightful stroll will be obtained, at an easy cost.

38.

LAYING OUT
WATERED
LANDS.

39.

FEBRUARY 20. I have at length the pleasure of seeing a TWO-OX PLOW completely in its work. Two oxen, in yoke, with a single chain passing from it, to the draft iron of the plow, and driven, with whip reins, by the plowman, have been employed, during the last fortnight, in giving the first fleet plowing of turnep grounds: a work which they perform with ease and dispatch.

PLOWING
WITH
TWO OXEN.

This is the simplest and cheapest plow-
team

39.

PLOWING
WITH
TWO OXEN.

team I have yet set to work. The yoke and single chain, if made light and well fitted to the oxen, are, for a two-ox plow, in light work, much preferable to collars, traces, and splinter bars; which are complex, expensive, and for ever entangling with the reins; and the splinter bars are a heavy incumbrance, at the head of a light swing plow.

SEPTEMBER, 1794. This summer, I have had two of these admirable plow-teams, in full work: employing them, chiefly, in stirring fallows; which they do with great effect: plowing eight or nine inches deep, with plows which clear their work. To make the labor the less, and the operation the more effective, the slices are cut narrow; not more than six or seven inches wide; by which means this cheap and easy plowing becomes nearly equal to spade work;—more effective than any number of the partial plowings, usually given to broken ground, in this District.

MARCH

40.

MARCH 12. In the Autumn of 1791, I designed and set out, and have now brought into a train of finishing, a suite of FARM YARDS and BUILDINGS, on a large scale. See MINUTE 29.

FARMTRY
OF BUCK.
LAND.

I have not leisure to register, in detail, the minutiae of this improvement; but a few particulars strike.

A DUNG YARD of a semi-octagon form, inclosed, on one side, with cattle sheds, and, on the other, by a line of stables and farm offices; with opposite gates and a carriage road, by the side of the latter; is, in every point of view, in which I have yet seen it, very eligible.

CATTLE
YARDS.

BATTERING FOUNDATION WALLS. The surface of this yard, by reason of the form of the ground (see page 317.), necessarily rises, in one part of it, nine or ten feet, above the road, which passes on the outside of the sheds; consequently, the weight of earth,

BUILDING.

from lodging upon them; and thereby to elude, as much as possible, the decay of the timber.

40.
CATTLE
SHEDS.

The proper WIDTH OF A STALL, for two middle-sized working oxen, is seven feet. Cows, though of smaller size than oxen, require as much or more room, for the conveniency of milking them, and suckling their calves. A danger of making stalls too wide is that of the cattle turning round in them; and by that means placing themselves, in an awkward and dangerous situation, with respect to their fellows. This danger, however, is to be guarded against by a post rising in the middle of the stall, immediately before the shoulders of the cattle; in a line with the front posts of the PARTIAL PARTITIONS*: and a post in this place may be found useful to fasten calves to, during the time of suckling.

The proper LENGTH OF STALLS, for Devonshire oxen, of the larger size, is nine feet; namely, three feet the width of the trough, and six feet the platform, or resting

VOL. II.

A a

place;

* See MID. ECON. Vol. I. P. 33.

carried up ; but very much battering, or falling back towards the sheds ; the angle of inclination, from the perpendicular, being not less than thirty degrees. The foundation of this wall was dug, and the courses of stones laid, not horizontally, but at right angle, or square, with the line of reclination ; the earth being firmly rammed in behind, as the wall was carried up. The uppermost or coping stones are large and strong ; serving as bonds to the wall, and as a buttress to the convex pavement, above mentioned ; which presses against these coping stones, on one side, and against those which form the outer edge of the platforms of the stalls, on the other, as an arch bears on its buttments.

On a stage below this principal dung-yard, and on the upper side of the barn, a STRAWYARD, for loose cattle, and store swine, is shaped out of the slope of the hill on which this farmery is situated. And behind the range of offices, which form one side of the dung yard, is another straw yard. And between these two straw yards is a MILKING YARD.

A a 2

These

40.

DUNG FITS.

40.
WATERING
YARDS.

These three yards are WATERED, by means of the made rill, which has been spoken of, in MINUTE 27; and which passes through these yards, in channels, partially or wholly open, for the use of stock; and thence through a covered drain, to its natural channel. In passing through the principal strawyard, it runs along the top of a dwarf wall, or offset (at the foot of a fence wall), twelve or fifteen inches high, from the level of the yard; and about fourteen inches wide; with a channel, six inches deep on the back part, shelving upward to an angle in front; and divided by upright stones, placed edgeway across the rill; which has, here, a considerable descent: consequently, each obstruction forms an eddy, small pool, or drinking place; eight or ten head of cattle being able to drink, at the same time, and with the most perfect conveniency.

Finding, by experience, that too copious a supply of water is, on many accounts, troublesome, in a rill of this intention, I ascertained the exact size of the stream required, by means of gauges of different dimensions,

menfions, fet acrofs the channel. And having found, that a bore of two inches diameter gave the defired fupply, I have fixed a ftone, perforated with a bore of this diameter, in a penftock of oak, and placed this acrofs the channel, above the yards, with a wafte water channel, immediately above it; fo that an inordinate fupply of water, fent down; by rains or otherwife, is effectually prevented.

40.
WATERING
YARDS.

In this yard, the ftall cattle are to be watered, and to be allowed to amufe themfelves, in the middle of the day; while the ftore fwine are collecting in the dung yard, whatever the ftalls or the ftables may afford them; being carefully kept out of that yard, while the cattle are in their ftalls: a principle of management, which can never be departed from, with propriety.

FARM YARD
ECONOMY.

The fuperfluous rain water, or YARD LIQUOR, of thefe feveral yards, pafs off, in the following manner. That of the dung yard (as well as thofe of the inferior yards) paffes, firft, into the principal ftaw yard; in a pit, or hollow part, of which it makes its firft depot. From hence the collected

YARD
LIQUOR.

A a 3

waters

40.
YARD
LIQUOR.

waters will be led through paved courts, and a stable yard,—collecting in their passage, and by proper assistance, in times of rain, the fulliage which such places are ever accumulating,—to a common receptacle ; where, having deposited their grosser feculencies, they will fall immediately into the main float that has been mentioned, mix with its stream, and assist in fertilizing the meadow lands which lie below these yards,

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